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No. 10

FREE EDUCATION

BY

THE AMERICAN MUSEUM OF NATURAL HISTORY

IN

PUBLIC SCHOOLS
AND COLLEGES

HISTORY AND STATUS
IN 1917

By
GEORGE H. SHERWOOD
Curator, Department of Public Education

NEW YORK
1918

LIST OF PUBLICATIONS ON THE EDUCATIONAL WORK OF THE MUSEUM

PUBLIC EDUCATION NUMBER, *THE AMERICAN MUSEUM JOURNAL*; Volume XI, Number 7; November, 1911.

THE EDUCATIONAL WORK OF THE AMERICAN MUSEUM OF NATURAL HISTORY; Extracts from the Fifth Annual Report of President Henry Fairfield Osborn to the Board of Trustees for the year 1911; 1912.

THE MUSEUM AND NATURE STUDY IN THE PUBLIC SCHOOLS by Henry Fairfield Osborn, President of the Board of Trustees, and George H. Sherwood, Curator of the Department of Public Education. *Miscellaneous Publications of The American Museum of Natural History*, No. 3; 1913.

THE PUBLIC SCHOOLS AND THE AMERICAN MUSEUM OF NATURAL HISTORY; History and Present Status of Museum Instruction and the Proposed Extension to the Schools of Greater New York in the Years 1914 and 1915; Prepared by George H. Sherwood, Curator, Department of Public Education. *Miscellaneous Publications of The American Museum of Natural History*, No. 5; June 23, 1914.

TEACHERS' HANDBOOK to the Exhibitions and Collections in The American Museum of Natural History—Part 1, The North American Indian Collections, Their Use in Elementary English, History and Geography and in High School History and Economics. By Ann E. Thomas, Assistant, Department of Public Education; 1916.

MUSEUM INSTRUCTION FOR THE BLIND. By Ann E. Thomas, Assistant in the Department of Education, American Museum of Natural History. Reprinted from the Proceedings of the American Association of Museums, Vol. XI, 1917.

ANNUAL REPORTS OF THE PRESIDENT 1905-1917

Apply to CURATOR, DEPARTMENT OF PUBLIC EDUCATION,
The American Museum of Natural History,
77th Street and Central Park West,
New York City.

Free Education

by

The American Museum of Natural History

IN

PUBLIC SCHOOLS AND COLLEGES

HISTORY AND STATUS OF MUSEUM INSTRUCTION AND ITS EXTENSION TO THE SCHOOLS OF GREATER NEW YORK AND VICINITY

By
GEORGE H. SHERWOOD
Curator, Department of Public Instruction

With Foreword by
PRESIDENT HENRY FAIRFIELD OSBORN

Miscellaneous Publications of
The American Museum of Natural History, No. 10

NEW YORK
1918

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Herman A. Sievers, *Messenger*

Thomas F. Hines, *Messenger*

Earl J. Kramer, *Messenger*

LECTURE STAFF—1917

Free Lectures for School Children

George H. Sherwood, A. B., A. M., Brown University, *Curator*

G. Clyde Fisher, A. B., Miami University, Ph. D., Johns Hopkins University, *Associate Curator*

Ann E. Thomas, Ph. B., Brown University, *Assistant*

Assisted by the Following Members of the Museum Staff

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Roy C. Andrews, A. B., Beloit College, A. M., Columbia University, *Associate Curator, Mammalogy*

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Frederick H. Smyth, *Bursar*

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THE AMERICAN MUSEUM OF NATURAL HISTORY
77th Street and Central Park West, New York City

NATURE IN THE SCHOOLS

The chief subjects now extended to Schools by The American Museum of Natural History are:

NATURE STUDY
Lessons from the Life of Land and Sea

GEOLOGY AND MINERALOGY
Structure of Rocks and Minerals

ZOÖLOGY
Life and Development of Animals

BOTANY AND FORESTRY
Life of Plants and Economic Uses of Woods

GEOGRAPHY OF THE WORLD

HISTORY OF PRIMITIVE MANKIND
Life of Natives of America and Other Countries

NATIVE ART

INDUSTRY, PRIMITIVE AND MODERN

HISTORY OF AMERICA AND RELATED COUNTRIES
Local History of New York City and State

HEALTH AND HYGIENE
Carriers and Control of Disease Germs,
Water Supply and Sanitation

The Museum is teaching these subjects in lectures, in its exhibition hall studies and in its traveling museums to the schools. It has a corps of teachers specially trained to instruct the young. It draws upon its incomparable series of explorations, collections and photographs from all parts of the world. It brings the latest discoveries of science to the eye and mind of the child. It aims not only to instruct but to *educate*. Through thirty-eight years of experience and experiment since our school work began, we have shown that the Museum is a real force in the education, especially of the city-bred child and youth.

The School, the College, the University and the Library have gone in advance; the Museum follows and has won its own place and influence because it supplies a demand which none of its sister institutions fills. The rise of the Museum as a new force in town, city, state and nation is THE LATEST PHASE OF EDUCATIONAL EVOLUTION.

Every community, small or large, needs its Museum as it needs its schools and its churches. The very fact of this independent development is a proof that the Museum is not one of the luxuries of New York life, but an essential and vital force in the enlightenment of our people.

The Old Museum Idea was that of a sanctuary or refuge, a safe deposit vault for curious, rare or beautiful objects which might be lost or destroyed; the child or the ignorant visitor was tolerated rather than attracted; the curator was a keeper, not a teacher. The New Museum Idea is a complete fulfilment of Francis Bacon's plan of education as outlined in his "New Atlantis" (about 1617).

The growing museum influence, which during the past quarter of a century has been especially remarkable throughout the cities of the United States, is largely due to what may be called the New Museum Idea, namely, that *the Museum is not a conservative but a progressive educational force, that it has a teaching quality or value peculiar to itself, that the Museum succeeds if it teaches, fails partially if it merely amuses or interests people and fails entirely if it simply mystifies.*

The new spirit within the natural history museum is the educational spirit, and this is animated by what may be called its ethical sense, its sense of public duty, its realization that the general intelligence and welfare of the people are the prime reasons for its existence, that exploration, research, exhibition and publication should all contribute to these ends, that to serve a community the Museum must reach out to all parts of nature and must master what nature has to show and to teach. *The Museum will flourish if the high educational service of the city and state is inscribed over its portal and instilled in the mind of every member of the staff from the highest to the lowest.*

HENRY FAIRFIELD OSBORN,

President.

The American Museum of Natural History,

June 15, 1918.

PROFESSOR ALBERT S. BICKMORE ADDRESSING TEACHERS IN THE AUDITORIUM OF THE MUSEUM

HISTORY OF THE RELATIONS OF THE AMERICAN MUSEUM OF NATURAL HISTORY TO THE PUBLIC SCHOOLS

I. FIRST PERIOD: 1869–1904

Lecture Courses for Teachers—First Teaching Collections Deposited in the Schools

MAINTAINED CHIEFLY BY APPROPRIATIONS FROM THE STATE

LECTURES FOR TEACHERS

The possibility of the Museum as a factor in public education was one of the motives which inspired that group of public-spirited men who organized and founded The American Museum of Natural History. The general educational value of its collections and exhibits was widely accepted, but as the institution grew it became more and more evident that if the Museum was to fulfil its function it must establish closer relations with the public schools and the educational system. The desirability of museum extension was early recognized and the first steps in accomplishing this were taken in 1880, when the Trustees authorized Professor Albert S. Bickmore, the Superintendent of the Museum, to prepare for the public school teachers a special course of lectures on natural history subjects to be given at the Museum and to be illustrated with the Museum's collections. In coöperation with the Board of Education, arrangements were made whereby thirty teachers were detailed to attend these lectures. The first lecture was given in 1881 to an audience of twenty-eight persons. The first course consisted of eighteen sessions, and, although the lectures were given out of school hours and the attendance was purely voluntary, there was a gratifying increase in attendance throughout the course. This work received the hearty indorsement of the City Superintendent of Schools and of the President of the Normal College of the City of New York, and was continued in succeeding years. In 1884, the educational authorities of the City and State were so impressed with the value of this educational work that the State appropriated the sum of $18,000 for its further extension. Under this grant, Professor Bickmore prepared a comprehensive series of lectures to be given to the teachers of the City and State. Twenty lectures were scheduled for each year. The main purpose of these lectures by Professor Bickmore was to give the teachers exact information and to acquaint them with the riches of the Museum in order that their teaching might be more effective.

At this time, the Museum also prepared a teaching collection of rocks of Manhattan Island, dried plants and many specimens of corals, shells, crustaceans and insects. This material was installed in suitable cabinets and deposited in each of the 160 public schools, so that the teachers would have on hand material to illustrate for their pupils the facts learned at Professor Bickmore's lectures. From this beginning, there developed the system of Visual Instruction so closely identified with Professor Bickmore's name. The work received the support of the State from 1884 to 1904, except for two brief intervals in 1890 and 1892. During this period of twenty years the work was under the immediate direction of Professor Bickmore and in the carrying out of these educational plans he brought together that unique series of stereopticon slides which he presented to the Museum and which forms the nucleus of the Museum's now extensive series. In 1904 continued ill health compelled Professor Bickmore to retire from active service.

TEACHING COLLECTIONS

II. SECOND PERIOD: 1904–1917

A. Introduction of Circulating Nature Study Collections —Circulating Loan Collections for Libraries—Inauguration of Lectures for Pupils—Establishment of Special Guide Service—Special Provision for the Blind

SUPPORTED BY CITY MAINTENANCE AND TRUSTEES' FUNDS

The keynote of the first period of the Museum's educational activities (1869-1904) was instruction for teachers; that of the second period, instruction for pupils. During the first period, the scope of the work included the schools of the entire State. In the second, attention was focused primarily on the schools of New York City. After 1904, when the State withdrew its financial support, the City gradually increased its appropriation for maintenance. It was proper, therefore, that the Museum should give its attention to the needs of the City schools rather than to those of the State. Moreover, the introduction of nature study into the curriculum, the development of modern pedagogical methods, the growth of libraries, the perfecting of projection apparatus which rendered illustrated lectures more practicable, and the continued increase in the wealth of the Museum's educational materials, all contributed to direct the work into new fields.

Nature study was introduced as a subject in the curriculum of the New York public schools in 1902 and an elaborate Syllabus was

placed in the hands of the teachers. This Syllabus required the teacher to give instruction in a great many subjects but made no provision for supplying the necessary material. The individual teacher was supposed to get her material when and where she could. In their urgent need many teachers appealed to the Museum for assistance. The Director of the Museum realized that here was an opportunity for the Museum to greatly extend its sphere of usefulness, and, following his recommendation, the Trustees authorized the preparation of a series of collections for use in the schools. These collections were prepared with the object in view of placing in the hands of the teachers, so far as practicable, the actual specimens referred to in the Syllabus of Nature Study issued by the Board of Education. In many respects they were quite similar to the collections deposited in the schools in 1884, but the new collections were sent out as loans, and not as permanent deposits as was done with the first collections. This feature alone has an important bearing on the success of the present system of circulating collections. Each collection is put up in a small cabinet about the size of a suit case and is accompanied by a leaflet giving simple facts on the structure, habits and characteristics of the particular species in the collection. These notes are necessarily brief and are intended chiefly as suggestions to the teachers. A brief bibliography on the subjects is noted and attention is called to the local collections of birds or other animals in the Museum building.

CIRCULATING NATURE STUDY COLLECTIONS

The method by which the teacher obtains the collections has been made as simple as possible. The Museum furnishes blanks upon which the principals make application for the collections and at the same time indicate the sequence desired. Delivery is then made by the Museum messengers, who call again at the end of the loan period, that is, in three or four weeks, and make the second delivery. This method keeps the Museum in frequent touch with the teachers and enables us to understand their needs.

The work began with ten small cabinets of birds. The requests for the collections became so numerous that it was necessary immediately to increase the number as well as the variety of the collections. In the first year collections of minerals and rocks, native woods, insects and several other lower animals were added to the series. The collections then covered the greater part of the material suggested in the Syllabus and the growth of the work merely required the duplication of the collections already in circulation. The collections now comprise minerals, rocks, woods, sponges, corals, sea-urchins, starfishes, mollusks, worms, crabs, insects, birds and small mammals. The teaching value of these collections is enhanced

manyfold because the individual specimens may be removed from the cases and utilized for close observation.

Owing to the growing interest in questions of public health, a number of folios pertaining to public health have been added to the series. These comprise photographs illustrating the sources, spread and prevention of contagious diseases, the part played by insects in carrying disease, and bacteria and their work. These public health folios were prepared under the immediate direction of Professor C.-E. A. Winslow, Curator of the Museum's Department of Public Health. They are in great demand, especially by the teachers of High Schools, and their further duplication is desirable. Recently the first series of Public Health Charts, namely, "The Spread and Prevention of Communicable Diseases," has been issued in printed form on cloth-backed paper, 22 x 28 inches. Now there are 250 sets of these charts available for the New York Schools, and a limited number can be sold to other educational organizations.

The following statistical table illustrates the growth of this branch of the work:

GROWTH OF THE CIRCULATING NATURE STUDY COLLECTIONS

	1904	1905	1906	1907	1908
Number of Collections in Use	120	400	435	450	484
Number of Schools of Greater New York Supplied	115	200	300	325	383
Number of Pupils Studying the Collections	250,000	375,000	800,000	725,000	575,801

	1909	1910	1911	1912	1913
Number of Collections in Use	435	390	512	537	597
Number of Schools of Greater New York Supplied	419	334	486	491	501
Number of Pupils Studying the Collections	922,512	839,089	1,253,435	1,275,890	1,378,599

	1914	1915	1916	1917
Number of Collections in Use	675	671	704	712
Number of Schools of Greater New York Supplied	470	473	439	446
Number of Pupils Studying the Collections	1,273,853	1,238,581	1,118,322	1,075,076

One important feature of this work is the personal relation established between the teachers and the Museum officers. This is mutually helpful and enables us to enlarge the collections or prepare new ones, as the case may require. Thus, the emphasis placed in the Syllabus upon animals useful to man and animals harmful to man has led to the addition of two new cases to the loan series, namely, ten sets of economic insects showing the life history of the destructive tent-caterpillar and of the useful silkworm. The collections were further augmented by the preparation of cases of moths and butterflies for the use of classes in drawing and design, and special collections of birds and shells have been provided.

A complete list of the circulating nature study collections will be found in Appendix I.

COÖPERATION WITH PUBLIC LIBRARIES

The lending of circulating collections to public libraries is another branch of extension work carried on by the Museum. It was begun in 1907 and until 1915 consisted of the sending of special exhibits to the children's departments of the Branch Libraries of New York City. After consultation with Miss Annie Carroll Moore, Supervisor of Children's Rooms, Museum specimens were selected and placed on exhibition for an indefinite period of time. In several cases the increase in the circulation of books relating to the collection was most marked.

In 1915, it was felt that the importance of the work warranted its careful organization and development. In the Museum storerooms are clothing, pottery, basketry, industrial models, dolls, implements of war, birds, animals, and many other types of specimens that can be used with success to illustrate books on travel and geography, nature study, history, current events, and art. From these, through the coöperation of the Department Curators, permanent circulating loan exhibits were selected. They were labeled and in some cases illustrated by large mounted photographs. From time to time, additions have been made to these until today there are available for library use collections on Japan, Mexico, The Philippines, South America, Siberian Russia, The Art and Archaeology of Central America, Dolls from Many Lands, The Eskimo, The Indians of the Plains, The Indians of the Southwest, Bird Neighbors, Corals and Sponges. To meet extraordinary demands, special exhibits are also prepared. Material illustrating Chinese Costume, The Story of Cotton, Primitive Arms and Armor, Pottery, Basketry, Special Birds, and Indians have been sent as temporary loans, perhaps to aid a group of factory girls from the Y. W. C. A., or a public school class visiting the library.

The circulating loan collections are carried to the libraries by the Museum messenger and are returned by him after a period of four or six weeks. They are arranged in the exhibition cases by the librarians themselves, who understand best the needs of their neighborhood.

When placed on exhibition the collections are used in various ways. In some of the adults' and children's departments, they are designed to add attractiveness to the rooms and to increase the circulation of the books selected to explain the specimens. In many of the children's rooms, however, there is a more definite plan of action. Sometimes the exhibit is made the center of interest about which the story hour legends are grouped; sometimes a member of the Museum staff explains the material. More often, however, the collections form the basis of definite coöperation between the schools and the libraries. Children who are studying Mexico in their classrooms are taken by their teachers to the library, where they examine the Mexican material loaned by the Museum and read the books describing that country; children who are studying *The Song of Hiawatha* visit the library to see the Indian collections, and boys and girls who are learning the principles of design go with their notebooks to copy the decorations on Indian basketry and pottery.

The field is an unlimited one. The exhibits give to children and adults who have not the necessary car fare an opportunity to examine natural history objects of broad educational value, and to do this in a library where they are surrounded by well chosen books of information. Oftentimes, moreover, these exhibits awaken the spirit of research; they lead the student to understand the correlation possible between a library and a museum; they bring him to the Museum to see the extensive collections here, and then send him back to the library for further reading.

LECTURES FOR PUPILS

Through personal acquaintance with the teachers, brought about by the establishment of the circulating nature study collections, we learned that there was a widespread desire for illustrated lectures for children, which would supplement the classroom work in geography, history and natural science. The question of special lectures for school children was brought to a focus when in February, 1904, the Committee on Children's Interests of the New York City Teachers' Association (through its Chairman, Miss Alida S. Williams) requested the Museum to give a series of lectures for children illustrative of the studies pursued in the public schools, and offered to submit for approval a plan of lectures adapted to and suitable for the various grades of the school course of study. This request was acted upon favorably by the Museum authorities and in coöperation with the

THE CHILDREN BEHOLD A "CITY" OF STRANGE BIRDS

Committee on Children's Interests, a course of twelve lectures was prepared and delivered in the fall of 1904. Each of these lectures was given three times in the course. The lectures were in the nature of informal talks and were fully illustrated with lantern slides. The subjects were chosen with special reference to the course of study, particularly in history, geography and nature study, and were designed to supplement the classroom work of the teachers. The lectures were given by members of the Scientific Staff on Monday, Wednesday and Friday afternoons at four o'clock, and attendance on the part of teachers and pupils was wholly voluntary. Their success was instant. The children came to the Museum literally by thousands and the teachers were enthusiastic in their praise of the work. Similar courses have been given, each spring and fall, with two exceptions, since that date. Under the direction of Dr. G. Clyde Fisher, who joined the staff in 1913, the scope of the lectures has been broadened. The subjects have been varied from time to time, and the children's interest has been intensified by the introduction of motion pictures.

Since 1914, these courses have been supplemented with a special series of lectures devoted exclusively to natural history, designed to encourage in children a greater interest in nature and outdoor life. Such topics as "Sea Creatures of Our Shores," "The Birds of Our Parks," "Fur-bearers Found Within Fifty Miles of New York City," "Wild Flowers of the Vicinity of New York City," and similar subjects have already been taken up.

SPECIAL GUIDE SERVICE

The interest in natural history aroused in the teachers and pupils by the circulating nature study collections and the lecture courses, combined with the increased transportation facilities, have led many teachers to bring their pupils to the Museum for study and examination of the principal exhibits. In order to enable the teachers and the pupils to utilize the time spent at the Museum to the best advantage, the plan was adopted in 1906 of providing an instructor for such classes. This instruction was adapted especially to children. This branch of the work has had a steady growth, and the plan of giving special lectures to pupils, illustrating the facts brought out in the lectures by later examination of the collections in the exhibition halls, has developed from it. This docent service is in a formative stage, owing in part to the fact that regular attendance of classes has not been organized or the Museum instruction fully correlated with school work. This instruction in the exhibition halls is equivalent to laboratory work and is of great importance as a method of education. In 1916-1917 this method of teaching was given more intensive study through coöperation with Barnard College. Students

in anthropology supplemented their college work by visiting the Museum at stated intervals for study in the exhibition halls under the guidance of Miss Ann E. Thomas. The results demonstrated the value of this instruction.

The instruction in the exhibition halls has reached its highest specialization in the Darwin Hall, through coöperation with the Department of Invertebrate Zoölogy. A special docent is assigned to this hall. He meets all visiting classes and directs their study. In 1917, 11,841 pupils were reached in this way. Docent service in the other halls is given principally by staff members of the Department of Public Education.

In some instances teachers have preferred to give their pupils special talks or lectures themselves. For this purpose, the Museum has provided several small classrooms, equipped with chairs, tables, blackboards and stereopticons, which have been reserved on request. Not infrequently specimens from the study collections also have been placed in the classroom for special study.

INDUSTRIAL USE OF MUSEUM COLLECTIONS

A new sphere for the utilization of Museum specimens in industrial education has recently been developed by the Department of Anthropology. Students of design have been encouraged to seek their inspiration in Museum collections showing the decorative arts of primitive peoples. The movement was started about fifteen years ago, and each year has seen a gradual increase in the number of those who have availed themselves of the opportunity, until in 1917 it reached three thousand. Some of the artists who come are not attached to any school, but the greater part are from the public schools of New York City, Teachers College (Columbia University), Hunter College, Cooper Union, New York School of Fine and Applied Arts, Keramic Society of Greater New York, Ethical Culture School, School of Applied Design for Women, and Pratt Institute.

Two rooms are reserved for the use of designers, to whom unusual facilities for study are offered. Garments, pieces of cloth, pottery, baskets, and other objects illustrating primitive arts are placed on tables; books from the Museum Library that have proved most helpful are kept at hand; and often students are permitted to go to the storerooms to make their own selection of materials. From time to time, Mr. Charles W. Mead, Assistant Curator of Anthropology, who has charge of Peruvian Hall, arranges for exhibitions of designs suggested by the arts of ancient Peru, while Mr. M. D. C. Crawford, Research Associate in Textiles, conducts classes and plans contests for professional and non-professional artists.

Because of the war, many designers, who formerly made Paris their headquarters, have been forced to remain in this country.

They have turned to the Museum's collections for their inspiration, and have given the movement great impetus. The results may be seen in the designs of silks, carpets, rugs, bead bags, wall paper, and ceramics of some of the foremost manufacturing concerns in America. They give promise that in the near future there will be an American school of design.

The managers of several of the New York City department stores have shown deep interest in the industrial use of Museum collections. They have sent the heads of their departments and other employees to the Museum to study primitive textiles and their ornamentation. One of the largest firms of the City has now arranged to have all the salesgirls that preside at the counters where cloth is sold visit the Museum. They come with the Company's Art Instructor in groups of about twenty. A member of the Museum's staff shows them a primitive loom and explains the way in which it is used. They are told about the technique of the various modern weaves and their decoration. It is believed that a knowledge of the history and methods of textile manufacture will make the daily work of the girls more pleasant and their salesmanship more effective.

EDUCATION FOR THE BLIND

The broad scope of the educational work of the Museum is indicated by the action of the Trustees in making special provision for instruction for the blind. This work was begun in 1909 under the immediate charge of Mrs. Agnes Laidlaw Vaughan, who resigned in 1914. Since that time it has been directed by Miss Ann E. Thomas. During the first year it was experimental. In 1910, however, its development and extension were made possible through the bequest of Phebe Anna Thorne, and gifts from her estate through her executors, Jonathan and Samuel Thorne. This generous endowment is known as the Jonathan Thorne Memorial Fund, and provides a fixed income that enables the Museum to send loan collections to schools in the vicinity of New York, to give illustrated lectures in the Museum to school children and to adult blind, and to supply transportation for the blind and their guides to and from the Museum.

Approximately one hundred blind or partially blind children from the public schools of Manhattan, The Bronx, Newark and Jersey City come regularly to the Museum for instruction. The visits are made during school hours and are recognized as a part of the school curriculum. In 1913 and 1914, the classes of New York City were divided into two groups and visited the Museum twice a month.

During the last four years, the work with the schools has been so arranged that each class has received individual instruction. The small number of pupils—from nine to twelve in a group—makes it possible for each child to "see" carefully every article under discussion. Moreover, the teacher is enabled to select lesson subjects

especially adapted to her needs. From a list of ten or fifteen topics on nature study, geography and travel, industrial life, and history, five are generally chosen by each class. The talks are given by Museum docents, and the lessons are carefully illustrated by objects that every pupil may handle. The lectures are planned both to supplement the prescribed school work, and to add interest and general knowledge to the life of the blind child.

Not only do the children come to the Museum, but the Museum, through its circulating collections, is carried to them. Nature Study material—native birds, small mammals, minerals and rocks—and large relief globes of the world are delivered at the schools to be used during the lesson hours as the teachers desire.

The constant moving of the adult blind of a great city, their sickness, helplessness, poverty, and inability to face inclement weather, make it difficult to reach them except by lectures. The Museum has a directory of the names of about seven hundred blind persons. With the aid of this and the various charitable institutions of New York City, it gets its invitations into the hands of all interested adult blind. The lectures are free. They are given in the evening, and Boy Scouts kindly act as guides. Before the talk, the animals, birds, or flowers about which the lecturer is to speak are on exhibition in the entrance hall, where they may be examined under guidance. Among the speakers, during the last few years, have been Rear Admiral Peary, Ernest Harold Baynes, Louis Agassiz Fuertes, Ernest Thompson Seton, Charles Crawford Gorst, George K. Cherrie and G. Clyde Fisher.

Indications of the value of the instruction for adults reach the Museum occasionally. Sometimes they come from the happy faces of the blind as they leave the foyer with their hands full of flowers; sometimes they come in letters of thanks. From the school children, however, the Museum gets direct expression of the helpfulness of the work. The classes are regular in their attendance, and often compose essays based on the lessons. To them, the visit means more than an hour's instruction. One teacher writes, "General class instruction is easier because of their visits to the Museum. Children of little experience in life and meagre opportunity for general information speak with some ease and familiarity of animals, birds, people, and customs about which they have been informed under your guidance. I thank you heartily in behalf of these children, who scarcely realize to what extent you are broadening their horizon."

B. Extension of Educational Work in 1915—Lending of Lantern Slides to Teachers—Establishment of Local Lecture Centers

SUPPORTED BY TRUSTEES' FUNDS AND BY SPECIAL APPROPRIATIONS OF THE BOARD OF EDUCATION

Through the Museum's recent educational work the institution has been brought into close relations with the educational system of the City, and through its invaluable collections from all parts of the world, its carefully installed exhibits and its corps of trained scientists, the Museum exerts a wide and growing influence in the community.

With the exception of the system of circulating nature study collections, all the methods of Museum instruction employed until 1914 necessitated the presence of teachers and pupils at the Museum. While it is desirable that children should visit the Museum as often as possible, the difficulties and dangers of travel and cost of transportation prohibit many thousands of pupils from coming to the Museum. A laborer who earns only $3.00 per day can ill afford to pay twenty cents for car fare to send his son or daughter to the Museum, especially when this child is perhaps only one of five or six all of who ought to have the same opportunities. It was with the desire to take the Museum treasures to these less favored children and to extend the influence of the Museum, that the Curator addressed the following letter to President Osborn:

April 15, 1914.

My dear President Osborn:

For the past ten years, the Department of Public Education of the Museum has been devoting special attention to the establishment of close relations with the public schools and the educational system of the City. The principal features of this work have been the cabinets of natural history specimens, which have been circulated through the schools, and the various courses of lectures for school children delivered at the Museum. The methods adopted have met with such success that the teachers now regard our circulating collections and our lectures as important adjuncts, if not indispensable aids, in their work.

In the past, the lectures have been given only at the Museum, after school hours, and attendance is voluntary. The large attendance at these lectures is very gratifying, for few realize what a strain it is upon a teacher to bring safely a class of twenty-five to fifty pupils to the Museum. She must get the written permission of the parents of each child before starting; she must take up this work when her normal day's work is finished; she must guard her pupils from accident on the streets. After the lecture is over, the teacher must take her pupils, at rush hours, back to the school and there dismiss them, and it is often eight o'clock in the evening before she reaches home for dinner.

In view of the severe strain on the teacher, the dangers incident to the transportation of children through the city streets and, most important of all, the fact that many parents cannot afford the necessary car fare, we believe that there is no extension of our educational work which would exert a wider influence and give more practical results than the establishment of a series of LECTURE CENTERS. The plan that we have in mind contemplates the selection of a centrally located school in each district in which would be given, by members of the Museum's staff, lectures similar to those now given for school children in our auditorium. This is a plan which scores of teachers have been urging for several years, but we have not been able to comply with these requests because our lecture force is small and our funds insufficient. With our present staff, however, it might be feasible to open half a dozen centers, but in order to supply the demand it will ultimately mean the training of a special corps of lecturers for this work.

Many requests are also received from teachers for the loan of lantern slides to illustrate subjects which they desire to present to their pupils. We have not been in a position to grant these requests, because our slides were not properly catalogued and we were not prepared to undertake the LOAN SYSTEM. Chiefly through the gift of Professor and Mrs. Bickmore, the Museum possesses a splendid series of lantern slides. Our collection numbers more than 20,000 slides, and since the Albany fire destroyed the original negatives of the Bickmore slides, our collection is probably the finest in this country. Sufficient progress has now been made in the cataloguing of our slide collections to enable us to undertake, in a limited way, the sending out of slides to the schools. It is especially desirable that the Museum should take up this work, since the State Department of Education at Albany is not in a position to supply the requests of the New York City teachers.

The effectiveness of nature study in the public schools of the City today is largely dependent upon the enthusiasm of the individual teacher and the accessibility of nature study material. Our present circulating collections are doing important work, inasmuch as they place in the hands of the teachers definite nature study material, but more effective results might be obtained if the teacher could have available a more extensive teaching collection. For this reason it would seem desirable to establish a BRANCH TEACHING MUSEUM in a number of centrally located schools. This could be accomplished if a case, say 8′ x 7′ x 1½′, was placed in each of the selected schools, and we installed a larger and more comprehensive teaching collection of natural history objects than is possible to send out in our regular circulating collections. The teachers of the district could then draw upon this material as required. The material in these cases should be changed periodically, perhaps three or four times a year, corresponding to changes in the course of study. The branch teaching museum should contain not only representative specimens of the animals that are being studied, but small portable groups illustrating the relations of certain animals to environment. Development along this line will involve considerable expense, for the cases should be uniform and the specimens in first-class condition. The problems of transportation and transfer could be handled by our present force. I feel that it would not be wise, however, to undertake the establishing of such branch museums as outlined above until the whole prob-

lem of nature study in the public schools has been considered, in order that it may be properly correlated with the nature study work required in the curriculum.

There are many problems to be solved in the working out of the details in the three lines of extension proposed above, but if the general policy meets with your approval, I should like to carry my investigations further and submit detailed plans to you.

Very truly yours,

GEORGE H. SHERWOOD,
Curator.

The plans for the proposed extension received the hearty support of President Osborn and he presented them to the Trustees at their meeting of May 4, 1914.

The Trustees felt that it was very desirable to undertake this work, but that, in view of what they were already doing for education without expense to the City, they could not provide the necessary funds for carrying out the proposed extension. They finally adopted the following resolution:

"Resolved, That the Board approves the general project embodied in Mr. Sherwood's report, if the same can be carried out without expense to this institution.

"Resolved, That a Committee of Two be appointed by the President to take steps to carry out the project, if it can be accomplished."

Pursuant to this action of the Trustees, President Osborn appointed the following Committee to consider the details of the plans proposed:

Felix M. Warburg
R. Fulton Cutting } *Trustee Members*
George H. Sherwood
C.-E. A. Winslow } *Faculty Members*

The matter was brought to the attention of President Churchill of the Board of Education, who immediately appointed a special committee consisting of

Frank D. Wilsey
Ira S. Wile
Francis P. Cunnion

to consider with the Museum authorities plans for coöperation.

Chairman Wilsey called on President Osborn and made an examination of the educational work the Museum was already doing

and of the plans for extending it. On the same day President Osborn had a conference with President Churchill, who endorsed the plans and gave assurance of his cordial coöperation.

From the beginning the Curator was in consultation with Superintendent Maxwell and Associate Superintendent Straubenmüller, both of whom gave much practical assistance in the formulation of the plans for the proposed extension.

After careful study of the problems involved, final plans for the extension work of the American Museum were recommended to the Committees of the Trustees and of the Board of Education and application made for an appropriation of $10,000 for carrying them out. These plans provided for:

1. The opening of ten local lecture centers and the delivery by members of the Museum staff of eighteen lectures in each center during the school year, the lectures to be mainly on geographical, historical and industrial subjects, and fully illustrated.
2. The inauguration of a system of lending slides, which would place at the disposal of the teachers of the public schools, for use in their classrooms, the extensive series of lantern slides belonging to the Museum.
3. The establishment of a branch museum in the Washington Irving High School which would be a local museum for the lower east side of the City.

The plans for the proposed extension received the unanimous support of the Committee of the Board of Education, and on its recommendation an application for $10,000 to put it into operation was incorporated in its budget request for 1915. In spite of this action of the Board of Education, the budget examiners for the Board of Estimate and Apportionment struck out the provisions for the Local Lecture Centers and the Branch Teaching Museum, and accepted only one feature of the proposed extension, namely, the lending of lantern slides. For this work an appropriation of $2,000 was allotted in the 1915 budget of the Board of Education.

LANTERN SLIDES FOR TEACHERS

The failure of the City to provide for the entire program of the proposed extension was a keen disappointment. Nevertheless, the staff of the Department of Public Education took up at once the problems of inaugurating the system of lending slides. Miss Kathryn I. Upson, a graduate of Vassar College, was appointed Slide Librarian. She gave her immediate attention to completing the catalogue of the slides and the preparation of reference catalogues and order forms for the use of teachers. We realized

that, with the numerous demands upon the teachers, many would not have time to prepare lectures from miscellaneous slides. Accordingly, the staff of the department undertook the preparation of several lectures on topics connected with school work. Each set of slides was accompanied with a manuscript, so that teachers could prepare their own lectures with a minimum of effort. These lecture sets are greatly appreciated by the teachers and are in almost constant use. At first, five sets were prepared. They have now been increased to fourteen, and their titles well represent the scope of the field covered:

1. The War Zone of Western Europe in Time of Peace
2. The Panama Canal
3. Our Forests and Their Uses
4. The Birds of Our Parks
5. A Journey in South America
6. The Wonderful Work of Water
7. Oral Hygiene
8. Minor Industries of New York State
9. Some Sources of Our Food Supply
10. Mexico
11. Longfellow's "Evangeline"
12. Washington Irving's "England"
13. "The Meadow People"
14. Japan

Announcements of the plan for loaning slides, together with reference catalogues and order blanks, were sent to all the schools in the City. At first, the use of the slides was somewhat limited by the fact that many schools were not equipped with classrooms which could be darkened, or did not possess stereopticons. In spite of these handicaps, the growth of this work has been most encouraging, as the following statistics show:

	1915 (9 months)	1916	1917
Number of Loans of Slides to Public Schools	146	491	935
Number of Public Schools Borrowing Slides	35	63	84
Number of Slides Circulated	11,929	38,912	63,111

In 1915, 1916 and 1917, the City provided annually, through the Board of Education, $2,000 for this work. This appropriation is barely sufficient to cover the cost of distributing the slides and the expenses incident to the preparation of the catalogues, lecture sets and manuscripts. Museum messengers deliver the slides and call for them at the end of the loan period. Unfortunately, for 1918 the appropriation was reduced to $1,200, although the work shows a growth of nearly 600 per cent. in two years.

Although the City did not financially support our plan to open the local Lecture Centers, in connection with the proposed extension in 1914, the need of this kind of educational work was so apparent that the Trustees authorized the Curator of Public Education to arrange for courses of lectures in two of the public schools, as a practical demonstration of the effectiveness of this method of instruction. These were given in the Washington Irving High School, in coöperation with Miss Rosemary F. Mullen, and in Public School No. 64, in coöperation with Mr. William F. Grady. The Washington Irving High School fulfils most completely our ideal of a Local Lecture Center because of its relations with the Elementary Schools. On the appointed days, classes from several of the neighboring elementary schools gather in the auditorium of the High School to listen to the lecture.

LOCAL LECTURE CENTERS

For three years we have been giving lectures in these two centers. The annual attendance is close to 40,000 pupils. Our experience in these schools and the many appeals from other teachers to have the lectures given in their schools, convince us that the most effective expansion of the Museum's educational work would be the establishment of other local lecture centers. Such expansion cannot be undertaken without a larger staff and further appropriations.

III. STATUS OF EDUCATIONAL WORK IN 1917

Report of the Curator

The extent of the Museum's practical educational work can be most effectively shown by citing the statistical summary of the work of the Department of Public Education for the year 1917.

The Circulating Nature Study Collections, 712 in all, have been in use in 446 Schools, in which 1,075,076 children have had an opportunity to study them.

GENERAL STATISTICAL SUMMARY

The lending of lantern slides, which was undertaken through special arrangement with the Board of Education, has had an astonishing development. The number of loans to public schools has increased from 491 to 935, while the number of slides circulated has risen from 38,912 in 1916 to 63,111 in 1917.

To pupils of the public schools, 103 lectures have been given by members of the staff, at which a total of 79,323 children were present. Of this number, 40,798 came to the Museum, while in the case of the remaining 38,525, the lectures were taken to them in the schools.

The instruction for the blind included 31 lessons to blind children from the public schools, with a total attendance of 345.

The special collections for libraries have been exhibited in 9 branches of the New York Public Library and have been studied by 29,380 people.

The reference series of negatives and photographs has received additions of 3,254 negatives and 3,128 photographs,the total reference file now numbering 46,565 negatives and 63,818 photographs.

The photographic department has made 1,547 negatives, 3,526 lantern slides and 13,623 prints.

LENDING OF LANTERN SLIDES

During the year 1917, the lending of lantern slides to the public schools has increased more than 66 per cent. This encouraging result is doubtless due partly to the equipment of more schools for the use of the slides.

The file of lantern slides now catalogued and available for teachers contains 20,900 slides. The slides in greatest demand during the past year were (1) Industrial subjects, (2) Natural History, (3) Historical subjects, (4) Geographical subjects. Those which we have prepared in regular sets, each accompanied by a booklet of notes, were much more in demand than individual slides or slides in groups. There are now fourteen sets available, and they are arranged according to their popularity during the year, as follows:

Set No. 9.	Some Sources of Our Food Supply	1
Set No. 7.	Oral Hygiene	2
Set No. 3.	Our Forests and Their Uses	3
Set No. 2.	The Panama Canal	4
Set No. 1.	The War Zone of Western Europe	5
Set No. 11.	"Evangeline"	6
Set No. 8.	Minor Industries of New York State	7
Set No. 5.	A Journey Through South America	8
Set No. 6.	The Wonderful Work of Water	9
Set No. 4.	The Birds of Our Parks	10
Set No. 10.	Mexico	11
Set No. 12.	Washington Irving's "England"	12
Set No. 14.	Japan	13
Set No. 13.	"The Meadow People"	14

COLORING OF LANTERN SLIDES

The attractiveness and value of most lantern slides is greatly improved by coloring. Especially is this true when the slides are used in children's lectures. Accordingly, none but colored slides are used in Museum lectures and practically no others are lent to the public schools. In order to add to our loan series, and to prepare slides for new lectures in the various courses given by the Museum, and also to prepare slides from Museum negatives for

other educational institutions, the services of a colorist are required during most of the year. Mrs. Katherine S. Smith, the Museum colorist, colored during 1917 stereopticon slides as indicated below:

For Loan Series and Museum Lectures	1,808
For Sale and Exchange	509
Total number of Slides colored in 1917	2,317

CIRCULATING COLLECTIONS OF NATURAL HISTORY SPECIMENS

Circulating collections of natural history specimens have been lent to the public schools of greater New York, as has been done since 1904. These collections include practically everything called for in the course of study, and there are thousands of boys and girls in the schools of New York City who would have no other opportunity to see and to handle such natural history objects. In this branch of the work of the Department, more pupils are reached than in any other.

All specimens in the circulating collections, except those of insects, have been prepared so that they can be removed from the cases and actually handled by the pupils. That the privilege of touching the specimen by the pupil adds to its teaching value, is practically the unanimous opinion of the teachers. On the other hand, the necessary wear and tear resulting from the handling incur an added expense to the Museum in keeping certain collections, such as mounted birds, in good condition. In the case of birds, however, when the number of years that many of the specimens have been in circulation and the number of times that they have been handled by the pupils have been considered, the results are not discouraging. But on account of increasingly stringent laws regulating the collecting of native birds, the department may be forced to put its loan collections under glass, and plans are being completed for trying this type of collection along with our original cases.

During 1917, the number of collections was 712, the number of schools supplied was 446, and the number of pupils who studied the collections was 1,075,076—a pupil being counted once for each case of specimens studied in regular classroom work.

The schools using the circulating collections during 1917 are classified as follows (see map facing page 74).

Elementary Schools in Manhattan	136
Elementary Schools in Brooklyn	128
Elementary Schools in Bronx	37
Elementary Schools in Queens	38
Elementary Schools in Richmond	21

Corporate Schools	14
High Schools and Colleges in Manhattan	23
High Schools and Colleges in Brooklyn	10
High Schools and Colleges in Bronx	8
High Schools and Colleges in Queens	7
Blind Classes in Public Schools	14
Private Schools	10
Total	446

The number of sets of each collection and the number of pupils studying each collection are shown in the following table:

	No. of Sets	No. of Pupils Studying Collections
Robin Set	55	141,532
Bluebird Set	52	109,793
Tanager Set	42	115,302
Owl Set	50	114,310
Blue Jay Set	48	108,866
Special Insects Set	54	64,902
Insects Set	55	58,130
Economic Insects	10	17,461
Native Woods	44	41,583
Minerals and Rocks	41	31,691
Sponges and Corals	29	58,675
Mollusks	28	42,244
Echinoderms and Worms	30	22,813
Small Mammals	28	98,421
Health Charts	50	18,337
Special Collections	96	31,016
Total	712	1,075,076

NEW EDITION OF PUBLIC HEALTH CHARTS

For five or six years the Department has been lending to the public schools three series of public health charts, prepared under the direction of Professor C.-E. A. Winslow, Curator of Public Health in the Museum. The subjects treated are as follows:

The Spread and Prevention of Communicable Disease
Bacteria and Their Work in the World
Insects as Carriers of Disease

Originally only ten sets of each series were made, and the demand from the schools has always greatly exceeded the supply. In order to more nearly meet this demand, a new edition of the first of these folios was issued, in number sufficient to supply all the calls from the schools of the city and also to offer a limited number of sets for sale.

Although they were available only during the latter part of the year, a number of sets were sold in various parts of the country.

The Rockefeller Institute requested four sets of these charts for use in war work in France. Four sets of eleven charts each were prepared without captions, so that French captions could be substituted. These, together with one complete set of fifteen charts with English captions, were presented by the American Museum to the Rockefeller Institute.

One set of the charts was presented to the Brooklyn Bureau of Charities for use in the prevention of tuberculosis.

THE MUSEUM AND THE PUBLIC LIBRARIES

The loan collections prepared for the public libraries of New York City have been in constant circulation. They have been displayed in children's rooms and in reference departments, and have not only added interest to the reading of books on natural history and geography, but have stimulated coöperation between the libraries, the public schools and the Museum.

There are eleven collections now available for library use:

Indians of the Plains
Indians of the Southwest
The Eskimo
Siberian Natives
Japan
South America
The Philippines
Mexico
Dolls from Many Lands
Birds, Their Nests and Eggs
Photographs Illustrating the Art and Archaeology of Mexico and Central America.

These include specimens, models, mounted prints, labels and maps, and have been placed on exhibition largely through the generosity of the Department of Anthropology. The material is loaned for a period of one or two months and is carried to the library and returned by the Museum messenger. It is installed, however, by the librarian in charge; she can best arrange it to suit the needs of her group of readers.

Five of the libraries of the City that heretofore have not been in touch with the Museum borrowed circulating exhibits during the year 1917. The library of San Antonio, Texas, and the Utica, New York, Public Library have also received temporary loans of

photographs and specimens. In all, 26,802 children and 2,578 adults have studied the exhibits.

Coöperation with the libraries has not been limited to the loaning of special collections. The school exhibits of birds, mammals and butterflies have been borrowed by the libraries; slides from the Museum files have been used, and several lectures for children have been given at the branches by members of the Museum staff.

Excerpts from the reports of the librarians give the clearest indication of the value of the loan collections and the method of their use.

"The exhibit [Small Mammals] was used in connection with school work. Animal stories and legends were told at the Saturday afternoon story hours during October."

"This exhibit [Indians of the Southwest] which was used in the reference department, added much to the attractiveness of the room, and stimulated interest in our students."

"The exhibit [Indians of the Southwest], which is the first ever loaned to this branch, has proved of great value to the neighborhood and has stimulated an interest in visiting the Museum itself; through it the branch has been able to popularize many books on travel, western life, Indians, pioneering, and United States History."

"The basketry [Indians of the Southwest] was of special interest to girls looking for designs for that work. The pottery was also used by children looking for conventional designs for drawing. The exhibit has been used in connection with the story hours and picture book hours, and in instruction to classes visiting the library from schools in this district."

"We found the exhibit [Japan] attractive. The letters, ink-well, and combs particularly appealed to the children. We had a special collection of books on Japan which was much used."

"Almost all of the second and third grades of the schools of the neighborhood saw the exhibit [Indians of the Plains], and the teachers agreed that it was a great help to the children studying *Hiawatha* to see the Indian things mentioned in their study. We had Indian pictures and kept our easy books about Indians on the shelves near the exhibit. The larger boys were very much interested, and one club of big boys from a near-by settlement came with their leader to see the exhibit. We had sent notices to the settlements advertising it."

Following are the year's statistics for the library loan collections:

Library	Date	No. Children	No. Adults
AGUILAR			
Eskimo	Jan. 24—Mar. 1	4,605	26
Birds	Mar. 1—Apr. 13	850	50
Indians of the Southwest	Sept. 10—Sept. 29	6	70
South America	Oct. 3—Nov. 9	100	300
The Philippines	Nov. 12—Jan. 8	2,748	20

Library	Date	No. Children	No. Adults
HAMILTON FISH PARK			
Indians of the Plains	Oct. 3—Nov. 15	2,000	70
HAMILTON GRANGE		(Estimate)	
Indians of the Plains	Dec. 10—Jan. 1	325	12
HIGHBRIDGE			
Indians of the Plains	Mar. 26—June 7	300	25
Mexico	June 27—Sept. 11	25	175
Eskimo	Sept. 24—Nov. 5	98	10
South America	Nov. 12—Dec. 15	200	30
Dolls from Many Lands	Dec. 24—Jan. 19	240	25
ST. GABRIEL PARK			
Indians of the Southwest	Feb. 6—Apr. 2	1,500	75
Japan	Apr. 2—June 16	1,200	50
WOODSTOCK			
Dolls from Many Lands	Jan. 1—Feb. 15	1,000	25
Japan	Feb. 13—Apr. 2	1,300	25
The Philippines	June 6—Nov. 5	3,500	100
WEST 40TH STREET			
Birds and Mammals / Indians of the Plains	Nov. 8—Jan. 13	1,300	250
67TH STREET			
Mexico	Apr. 2—May 24	497	6
Birds	May 28—Oct. 3	556	12
Mammals	Oct. 8—Nov. 8	321	5
Indians of the Southwest	Nov. 12—Dec. 15	571	11
Siberian Russia	Dec. 15—Jan. 16	408	9
96TH STREET			
The Philippines	Mar. 8—May 3	800	25
Archæology Photographs	Mar. 9—May 22		500
South America	June 20—Sept. 5	500	
SAN ANTONIO, TEXAS			
Archæology Photographs	Jan. 26—Feb. 26		500
UTICA, N. Y.			
Indians of the Southwest	Oct. 16—Nov. 16	1,627	169
TOTAL		26,577	2,575
STATISTICS FOR LECTURES AT LIBRARIES:			
HIGHBRIDGE			
Birds (Mr. Rogers)	May 11	50	
WEST 40TH STREET			
Hiawatha (Miss Thomas)	Nov. 23	175	3
TOTAL		225	3
GRAND TOTAL		26,802	2,578

BLIND CHILDREN AT THE MUSEUM

EDUCATION FOR THE BLIND

Evening lectures for adults, lessons for the "sight conservation classes" of the public schools, and loans of circulating natural history specimens and relief globes of the world have constituted the Museum's principal activities in its instruction for the blind. The course of study for the children consisted of a series of ten talks on natural science, geography and travel, industrial life and history: (1) *Our Native Birds.* Birds of New York, their nests and songs. (2) *The Solar System.* Its origin, the sun, the planets and their satellites, illustrated by a planetarium. (3) *Flowers of the Springtime.* Flowers from the woods and fields. (4) *How Our Fur Friends Spend the Winter.* Some of the animals that hibernate. (5) *A Trip to China.* Houses, clothing, dolls, etc., from China. (6) *A Journey in Mexico.* Houses, clothing, basketry, pottery, etc., from Mexico. (7) *Methods of Transportation.* Models of boats, steam engines, pack horses, a small hydroplane and the Panama Canal. (8) *The Story of Cotton, Silk and Wool.* Cotton, silk and wool from the raw material to the finished fabric. (9) *How Cloth is Woven.* Model looms and examples of plain weaving, twills, etc. (10) *The Way in Which Primitive People Live.* The food, corn, mortar and pestles, fire drills and homes of some of the American Indian tribes. The teachers selected from three to five of the topics and came to the Museum with their pupils during school hours.

When the lesson hour is over and the children have returned to their class rooms, they sometimes write essays summarizing the lecture to which they have listened. A little girl, totally blind, composed the following story of Dr. Fisher's explanation of the changes of season. It is printed exactly as it was written in Braille.

THE SOLAR SYSTEM

"Yesterday I went to the Museum and Dr. Fisher talked to us about the Solar System.

"Solar comes from a Latin word that means sun so Solar System means the sun and all the bodies that move around it. The earth is one of the worlds that move around it. The earth takes one year to make the journey.

"When the earth's axis is leaning toward the sun, it is summer in New York, because the direct rays of the sun strike the Tropic of Cancer. Then it is winter in South America. In winter the axis leans away from the sun and the direct rays of the sun strike the Tropic of Capricorn. Then it is summer in South America. When it is spring or autumn the axis leans neither toward nor from the sun and the sun's rays strike the equator.

"One reason for the change of seasons is the revolution of the earth around the sun; the other is the inclination of the Earth's axis."

In the evening entertainments for the adult blind, an unusual experiment was made—a talk on Wild Flowers of Summer. Dr.

G. Clyde Fisher was the lecturer. The Museum foyer was filled with freshly gathered flowers—daisies, buttercups, stars-of-Bethlehem, wild geraniums, jack-in-the-pulpits, dogwood, and many others. About 200 blind examined the blossoms and leaves before hearing the lecture, and carried them home at its close. Through the courtesy of Mr. Lorillard Spencer, Jr., Mr. W. B. Holcombe and Mr. C. Elmore Smith, the Boy Scouts of Manhattan, Brooklyn, and Richmond kindly acted as guides.

The Jonathan Thorne Memorial Fund supports the education for the blind. It provides not only for the running expenses of the work, but it adds new equipment to that already in stock. Through it, this year, a tellurian, a loom for hand weaving, models of Indian homes, and primitive instruments for fire-making have been purchased.

EDUCATION FOR THE BLIND CHILDREN OF THE PUBLIC SCHOOLS

NUMBER OF LESSONS	Blind	Guides	Teachers	Parents
P. S. 6 MANHATTAN, 4 lessons	43	1	4	--
P. S. 17 MANHATTAN, 3 lessons	17	4	3	--
P. S. 44 MANHATTAN, 2 lessons	13	10	2	--
P. S. 110 MANHATTAN, 3 lessons	16	12	3	--
P. S. 166 MANHATTAN, 4 lessons	24	11	4	--
P. S. 171 MANHATTAN, 5 lessons	33	13	5	--
P. S. 186 MANHATTAN, 2 lessons	10	8	2	1
P. S. 45 BRONX, 5 lessons	26	14	5	--
WASHINGTON STREET SCHOOL, NEWARK, N. J., 3 lessons	43	10	6	2
Total 31 lessons	225	83	34	3

GRAND TOTAL OF ATTENDANCE: 345.

EDUCATION FOR THE ADULT BLIND OF NEW YORK CITY

Lecture, June 8, 1917, Wild Flowers of Summer, G. Clyde Fisher. 200 Blind and guides

DOCENT SERVICE

Docent service is provided by the department for teachers and classes visiting the Museum. This coöperation is not limited to the public schools, but is extended to include the private and parochial schools as well, and it is not confined to Greater New York. Guides are also furnished for members of the Museum and their friends when requested. The calls from these various sources are frequent and the time required for this work is considerable. The constant demand for docents by teachers and classes and by Members of the Museum is an indication of the value of this kind of service. Several members of the department act as guides, and the service is free.

The students in Professor Boas's undergraduate course in Anthropology at Barnard College continued their laboratory work in the Museum from January until the end of the college year in June. They studied the Siberian, South Sea Island, Eastern Woodland, Plains, Pueblo, North Pacific Coast, Peruvian, and Mexican collections. The nineteen talks given by the Museum docent were arranged to supplement Professor Boas's lectures on material culture, religion and art, and the classes made notes and drawings as they examined the specimens in the cases.

Subject of Lesson	Date	Attendance
Siberia	January 10	7
South Sea Islands	January 11	3
Siberia	January 15	6
Siberia	January 18	2
Indians of the Eastern Woodlands	February 26	9
Indians of the Eastern Woodlands	February 27	4
Indians of the Eastern Woodlands	March 1	7
Indians of the Plains	March 12	7
Indians of the Plains	March 13	4
Indians of the Plains	March 15	4
Pueblo Indians	March 26	9
Pueblo Indians	March 27	2
Pueblo Indians	March 29	6
North Pacific Coast	May 7	8
North Pacific Coast	May 8	5
North Pacific Coast	May 11	5
Peru and Mexico	May 14	4
Peru and Mexico	May 15	5
Peru and Mexico	May 17	4
Total: 19 lessons.	Students	101

LECTURES TO SCHOOL CHILDREN

Courses of lectures for school children, planned to supplement the regular school work, have been given during the spring and autumn. For a number of years, the lectures to school children, which have been given in the Museum auditorium, have consisted of four courses each spring and four courses each fall. From the following data, it will be observed that a change was made in the autumn courses. Instead of four lectures a week, the same number of lectures were given, but they were arranged in two courses a week extending over a longer period of time. Since it is a serious undertaking for a teacher to conduct a class to the Museum for a lecture and home again during the rush hour, it was thought that teachers and pupils could attend a greater number of the lectures of the entire series if they did not occur so frequently.

The autumn courses given in the Museum auditorium were as follows:

SERIES OF TWELVE LECTURES ON
GEOGRAPHY AND NATURAL HISTORY

October 15	MEXICO AND CENTRAL AMERICA Mr. Rogers	514
October 29	OUR SOUTH AMERICAN NEIGHBORS Mr. Sherwood	1072
November 12	TRAVELS IN OUR OWN COUNTRY Dr. Fisher	1469
November 21	TRAVELS IN OUR OWN COUNTRY Dr. Fisher (repeated)	400
November 26	AFRICA—ITS ANIMAL LIFE AND ITS PEOPLE Mr. Rogers	567
December 10	THE FAR EAST Mr. Andrews	234
October 22	HOW LIFE BEGINS Dr. Fisher	607
November 5	WILD BIRDS OF NEW YORK CITY Mr. Chubb	750
November 19	SNAKES—THEIR HABITS AND ECONOMIC IMPORTANCE Mr. Halter	310
December 3	STUDIES IN INSECT LIFE Dr. Fisher	234
January 7, 1918	THE STORY OF A PIECE OF COAL Dr. Fisher (Canceled on account of cold weather)	
January 14	THE WONDERFUL WORK OF WATER Mr. Sherwood	390
January 21	THE EARTH AND NEIGHBOR WORLDS Dr. Fisher (Canceled on account of coal shortage)	

SERIES OF TWELVE LECTURES ON
THE HISTORY OF THE UNITED STATES

October 18	THE EXPLORATION OF EASTERN NORTH AMERICA Miss Thomas	1029
October 25	THE SPANISH CONQUERORS Miss Thomas	981
November 1	EARLY HISTORY OF NEW YORK Mr. Miner	1019

November 8	"F. D. N. Y."—The City's Fire Department Mr. Smyth	845
November 15	The Growth of New York City Mr. Miner	816
November 22	Food Conservation in a Great City Dr. Hull	337
December 6	The Song of Hiawatha Miss Thomas	527
December 13	Colonial and Revolutionary Days in New England Miss Thomas	618
January 3, 1918	The Middle and Southern Colonies Miss Thomas	96
January 10	The Historic Hudson Miss Thomas	152
January 17	The Panama Canal Dr. Fisher	143
January 24	Our Newest Possessions—The American Virgin Islands Mr. Miner (Canceled on account of coal shortage)	

SERIES OF FOUR LECTURES ON

THE EVOLUTION OF CLOTHING

(In coöperation with The Metropolitan Museum of Art)

November 20	The Textile Industries of the United States Dr. Fisher	536
December 4	Garment Makers of Primitive Times Miss Thomas	167
December 11	Historic Fabrics and Costume (I) At The Metropolitan Museum of Art Mrs. Vaughan	165
December 18	Historic Costume (II) At The Metropolitan Museum of Art Mrs. Vaughan	83

Despite the severe cold, the coal shortage, and the resulting low attendance and necessary omission of several lectures, the total number present at the autumn series was 14,061. A similar course of 24 lectures, given in the spring (1917), brought 16,818 teachers and pupils to the Museum. The total attendance (50 lectures) for the year was 30,879.

In addition to the regular series, the following lectures to school children were given during the year in the Museum auditorium:

January 12	The Story of the Winds by Mr. Sherwood to class from Julia Richman High School	85
January 15	School Hygiene by Dr. Hull to Morris High School	60
January 22	Spread and Prevention of Communicable Disease by Professor Winslow to Julia Richman High School	1250
January 23	Forestry by Dr. Fisher to Morris High School	517
January 24	Birds by Mr. Mann to Morris and Evander Childs High Schools	956
January 25	Forestry by Dr. Fisher to Washington Irving High School	274
January 25	Forestry by Mr. Sherwood to Morris High School (given in the Museum of The New York Botanical Garden)	400
January 26	Birds by Dr. Fisher to Washington Irving High School	571
January 26	How Life Begins by Miss Mullen to Washington Irving High School	571
January 26	How Life Begins by Dr. Fisher to Bay Ridge and Eastern District High Schools	428
January 29	The Conservation of Our Forests by Dr. Fisher to DeWitt Clinton High School (given twice, 1,033 and 684)	1717
January 31	Birds by Dr. Fisher to Bryant High School	94
March 19	Invertebrate Zoölogy by Mr. Miner to class from Hunter College	80
April 11	Forestry by Dr. Fisher to Morris High School Annex	352
May 4	Farming by Dr. Fisher to De Witt Clinton High School	945
June 20	Birds by Mr. Mann to Evander Childs High School	427
June 20	Birds by Dr. Fisher to Morris High School	306
June 20	How Life Begins by Dr. Fisher to Bay Ridge High School and Marquand School	108
June 21	Trees by Dr. Fisher to Washington Irving High School	201
June 22	How Life Begins by Miss Mullen to Washington Irving High School	451
June 26	Forestry by Dr. Fisher to Brooklyn Training School for Teachers	74
August 13	Solar System by Dr. Fisher to Summer Session of Washington Irving High School	30
August 14	Birds by Dr. Fisher to Summer Session of Washington Irving High School	22
	Total attendance at these lectures	9919

It will be observed that most of the lectures on the preceding list were given during the Regents' Weeks in January and June. At these times the pupils from nine high schools came to the Museum not only for a lecture but also for definite laboratory work in the exhibition halls, the following halls being used most: Habitat Groups of North American Birds, North American Forestry, Public Health, Insects, Habitat Groups of Reptiles, and Darwin Hall.

LOCAL LECTURE CENTERS

Lecture centers have been conducted at Washington Irving High School and at Public School No. 64, Manhattan. The former is not for pupils of this high school, but for the pupils of the elementary schools of the vicinity. The success of this center is due largely to the supervision of Miss Rosemary F. Mullen, Head of the Department of Biology in Washington Irving High School. The lectures are given by members of the Museum staff. The center at Public School No. 64 is conducted for the pupils of that school, of which Mr. Louis Marks is Principal.

The following lectures were given at the Washington Irving High School:

April 17	The Forests of Our Country Dr. Fisher	1400
May 1	The Song of Hiawatha Miss Thomas	400
May 15	Travels in South America Mr. Boyle	1500
June 4	The Story of Our Country's Transportation Miss Thomas	1500
June 12	Our Waterways and Their Protection Mr. Sherwood	1500
October 16	The Song of Hiawatha Miss Thomas	1000
October 30	The Panama Canal Dr. Fisher (Canceled on account of rain-storm)	
November 13	The Earth and Neighbor Worlds Dr. Fisher	1300
November 27	Travels in Our Own Country Dr. Fisher	1400
December 11	The Historic Hudson Miss Thomas	1500
	Total attendance at nine lectures given at Washington Irving High School	11500

The following lectures were given at Public School No. 64, Manhattan (all lectures given twice):

April 12	Story of the Winds Mr. Sherwood	2000
April 19	Early History of New York Mr. Miner	1800
April 20	Mexico and Central America Mr. Rogers	1800
April 27	The Song of Hiawatha Miss Thomas	2000

		Attendance
May 4	How Life Begins Dr. Fisher	2000
November 15	Travels in Our Own Country Dr. Fisher	1900
November 22	The Historic Hudson Miss Thomas	2000
Jan. 4, 1918	The Earth and Neighbor Worlds Dr. Fisher	2100
January 11	Africa Mr. Rogers	1500
January 18	Mexico and Central America Mr. Rogers	1500
	Total attendance at the ten lectures (all given twice) at Public School No. 64, Manhattan	18600

In addition to the lectures given at the above two centers, the following were given to school children outside of the Museum:

		Attendance
January 9	Farming in The Middle West by Dr. Fisher at P. S. No. 42, Bronx (given twice)	1000
February 9	Wild Animals Near Home by Dr. Fisher at Staten Island Museum	100
February 16	Colonial New England by Miss Thomas at P. S. No. 20, Queens	600
April 12	The Story of a Piece of Coal by Dr. Fisher at P. S. No 53, Bronx (given three times)	1300
April 13	How Life Begins by Dr. Fisher at Bushwick High School	700
May 18	History of Transportation in The United States by Miss Thomas at P. S. No. 53, Bronx	550
October 18	Farming in The Middle West by Dr. Fisher at P. S. No. 55, Bronx	650
November 5	Textile Industries of The United States by Dr. Fisher at P. S. No. 42, Bronx	800
November 23	The Land of Hiawatha by Miss Thomas at West 40th Street Branch Library	175
November 28	Garment Makers of Primitive Times by Miss Thomas at P. S. No. 42, Bronx	950
December 20	Wild Animals Near Home by Dr. Fisher at P. S. No. 171, Manhattan (given twice)	1600
	Total attendance (11 lectures)	8425

The spring course of lectures to the children of Members, given on Saturday mornings, consisted of the following:

		Attendance
March 3	Among the Penguins of South Georgia by Robert Cushman Murphy	860
March 10	Hiawatha's People by Miss Ann E. Thomas	1440
March 17	Wild Flowers of Spring by G. Clyde Fisher	894
March 24	At Home in The Zoo by G. Clyde Fisher	1221

The autumn course was as follows:

		Attendance
November 17	Holidays with the Birds by Clinton G. Abbott	1135
November 24	The Children of The Far East by Roy C. Andrews	1176
December 1	The Kingdom of The Tides by Roy Waldo Miner	950
December 8	Our Waterways and Their Protection by George H. Sherwood	881
	Total attendance at these lectures	8557

The following course for Members was given during the spring of 1917:

March 8	In the Jungles of British Guiana by C. William Beebe	635
March 15	In the High Sierras by Leroy Jeffers	515
March 22	Our Debt to Ancient American Civilizations by Herbert J. Spinden	353
March 29	With Camera and Gun Through Western Colombia by Leo E. Miller	456

The autumn course consisted of the following:

November 1	The Search for Crocker Land by Donald B. MacMillan	942
November 8	The Romance of the Beaver and the Caribou by A. Radclyffe Dugmore	739
November 15	The Southern Andes by Frank M. Chapman	564
November 22	The Frontiers of a Forbidden Land by Roy C. Andrews	712
	Total attendance at these lectures	4916

PRIZMA PICTURES

On February 8, the first exhibition of Prizma motion pictures in natural colors was held in the auditorium of the Museum for the members of the Museum and the New York Academy of Sciences. So many persons were attracted to this exhibition that the pictures were shown twice the same evening, the hall being filled each time.

AMERICAN SCENIC AND HISTORIC PRESERVATION SOCIETY

In coöperation with The American Museum of Natural History, the American Scenic and Historic Preservation Society met on January 10, in the Museum. A lecture on "Our National Parks and Monuments" was given by the Honorable Robert Sterling Yard.

Another meeting was held on March 28, which was addressed by Samuel Christopher Lancaster, subject "The Scenic Beauty of Oregon."

In addition to the above series, there have been held throughout the year in the Museum, lectures under the auspices of the Board of Education and the New York Academy of Sciences and Affiliated Societies.

TEACHERS' DAY

On Saturday, January 20, a special exhibition of the motion picture film, entitled "How Life Begins," was given, to which were invited the teachers of Greater New York. Dr. Fisher gave an introductory talk. The attendance was 527.

MILITARY HYGIENE AND FOOD CONSERVATION EXHIBIT

The Exhibit on Military Hygiene and Food Conservation, which was prepared by Dr. Hull of the Department of Public Health, was installed in the Foyer of the Museum, where it was examined by thousands of visitors during the summer. It was lent in the autumn to the Washington Irving High School, where it served a similar purpose.

Y. M. C. A. WAR WORK

Appeals for help in the entertainment of soldiers have come to the Museum from the National War Work Council of the Y. M. C. A., and three ways have been developed in which the Museum is able to render practical assistance. The Department possessed several thousand uncatalogued lantern slides. Largely through the volunteer assistance of members of the department, these slides have been carefully sorted and more than 4,000, from which lectures may be made, have been presented to the Y. M. C. A.

The second method of assistance consists in preparing lectures especially designed to interest soldiers and sailors. These are called "Exploration Tales for Soldiers and Sailors." Their purpose is set forth in the following Foreword which accompanies each lecture:

> "The expeditions sent by The American Museum of Natural History to the remote parts of the earth not only have brought together wonderful natural history collections but are filled with adventures that stir the blood. We believe that the tales of these experiences will appeal to the soldiers and sailors, since the successful explorer must possess in marked degree the qualities which make good fighting men. These stories are told by the explorers themselves with the hope that they will entertain, amuse, and rest the boys in training and at the front."

Each tale is fully illustrated with lantern slides, and the text which accompanies it is dictated by the explorer himself in the language which he would use if addressing the men in person. Already

two of these recreational lectures have been completed and loaned to the Y. M. C. A.—"Camera Hunting for Whales" by Roy Chapman Andrews and "Bird Life on an Antarctic Island" by Robert Cushman Murphy. Two others, "Through the Brazilian Wilderness with Colonel Roosevelt" by George K. Cherrie, and "Some of My Mascots" by Ernest Harold Baynes, are nearly completed, and two by Carl E. Akeley on "African Big Game" are in course of preparation.

The third plan of coöperation with the Y. M. C. A. is to loan two-reel sets of the best motion pictures in the Museum under the title of "American Museum Exploration Series." These will include selected portions of the motion pictures taken by Roy Chapman Andrews on the Museum's Asiatic Zoölogical Expedition and the films secured by the Crocker Land Expedition in the Arctic.

At the request of Mrs. Henry R. Hoyt of the Ladies' Social Welfare Committee of the Y. M. C. A., guides have been furnished for groups of sailors on shore-leave from United States naval vessels in the waters near New York. Such groups visit the Museum every Saturday afternoon, and are conducted through the exhibition halls. The Museum is indebted to Miss Annie E. Lucas who has generously given her services as docent on the occasions of these visits.

PHOTOGRAPHIC WORK

One sign of growth of the Museum as a whole is seen in the ever increasing demands for photographic work—illustrations for scientific publications, for *The American Museum Journal*, the Public Information Committee, newspapers, magazines, and special writers, and lantern slides for the educational work of the Museum have fully occupied the time of our two photographers.

Museum photography offers peculiar difficulties, and much of the work requires a surprisingly large amount of time. To make satisfactory illustrations for *The American Museum Journal*, for example, is more than simple photography—more than merely making a negative and a print. For the purposes of artistic illustration, a greater or less amount of manipulation on the part of the photographer is necessary to produce the desired result.

Photographic illustrations properly selected are frequently more effective than printed text, and their value seems to be fully appreciated by the newspapers and magazines and by the makers of books. There is no doubt that much of the efficiency of The American Museum of Natural History as an educational institution is due to the photographs of the exhibits and to those made by the field expeditions, which are used in the ways indicated above.

The work done by the Museum photographers, Julius Kirschner and Kay C. Lenskjold, is listed in the following table:

Negatives		Enlargements		Prints	
4 x 5	15	4 x 5	3	4 x 5	4576
5 x 7	404	5 x 7	46	5 x 7	2852
8 x 10	449	6½ x 8½	2	6½ x 8½	201
3¼ x 5½	185	8 x 10	253	8 x 10	3819
3¼ x 4¼	494	11 x 14	127	4 x 10	4
		5½ x 14	1	5 x 8	9
Total	1547	16 x 20	75	11 x 14	28
				4 x 6	100
		Total	507	3¼ x 5½	27
				3¼ x 4¼	2007
				Total	13623

REFERENCE FILE OF NEGATIVES AND PHOTOGRAPHS

The Museum's collection of negatives has been increased during the year by 3,500 negatives from the Crocker Land Expedition. The Asiatic Zoölogical Expedition added 450 negatives, of which 128 were Paget color plates. Both the ordinary black and white negatives and the color plates of the Asiatic Expedition were made by Mrs. Yvette Borup Andrews, photographer of the expedition. The work of filing the negatives from these two expeditions, and the making, mounting and filing of the photographic prints from these negatives were in progress at the close of the year.

In pursuance of the policy of making the Museum a depository for rare and valuable natural history negatives, the deposit collections have been increased by 1,223 negatives of birds made by Rollo H. Beck in South America.

The above numbers do not include the following negatives which are in the process of filing:

3,500 negatives from the Crocker Land Expedition
450 negatives from the Asiatic Zoölogical Expedition
245 negatives from the Nicaraguan Herpetological Expedition
322 negatives from the Brewster-Sanford South American Ornithological Expedition
354 negatives of anthropological subjects made by Alanson Skinner
353 negatives from the Roosevelt-Cherrie South American Expedition

The reference file now numbers 46,565 negatives and 63,818 photographs.

During the year the following additions have been made to the Motion Picture Library:

Subject	By Whom Made	Length	How Procured
How Life Begins	Geo. E. Stone	4,500 ft.	Purchased
Minnesota Bird Life	Thos. S. Roberts	500 ft.	Purchased
Anthropoid Apes and Equines	Raymond L. Ditmars	1,000 ft.	Gift
Dr. E. O. Hovey and Donald B. MacMillan on return from Crocker Land Expedition	Lincoln & Parker Co.	50 ft.	Gift

Subject	By Whom Made	Length	How Procured
Microscopic Life, Marine Views, Embryology and Hatching of Chick, and the Formation of Crystals	Alessandro Fabbri	5,000 ft.	Gift
Eskimo and Arctic Animal Life,		12,000 ft.	Exped'ion
Life and Customs in Japan and China	Roy C. Andrews	10,000 ft.	Exped'ion

CHANGES OF STAFF

It was with regret that the department lost the services of Miss Kathryn I. Upson, Lantern Slide Librarian, who resigned on October 1. The position has been filled by Miss Virginia McGivney, a graduate of Barnard College, whose experience as a teacher in the New York City Schools makes her especially competent to direct this work with the teachers.

ACKNOWLEDGMENTS

During the year 1917, the Department of Public Education has had the helpful coöperation of the following firms and individuals: Exhibitors' Booking Agency in lending the motion picture films entitled "How Life Begins" for use on Teachers' Day; E. R. Sanborn of the New York Zoölogical Society in lending motion picture films of animals for use in a lecture to children of Members; New York State Conservation Commission in lending motion picture films showing Forest Fire Protection and Reforestation Methods for use in lectures to the children of the Public Schools; Alfred W. Abrams, of the Division of Visual Instruction, Department of Education, Albany, in lending lantern slides for use in lectures to school children; the New York Historical Society in permitting the use of books and in permission to photograph cuts, plates, etc., for lantern slides; Brown Bros., Sarony Inc., Janet M. Cummings and *Collier's Weekly* in lending photographs from which to make lantern slides.

IV. COMMENTS OF EMINENT EDUCATORS ON THE EDUCATIONAL WORK OF THE MUSEUM

"I have noted particularly the reports of your educational work, and beg to send my congratulations on what you are accomplishing."

JOHN H. FINLEY,
President, The University of the State of New York

"I am gratified to see that the Museum is indeed making education and its problems a theme for research. I regard the usefulness of an institution such as yours dependent in some measure upon the contact it maintains with the world of education: especially with that part which is represented by our colleges and universities."

BENJAMIN IDE WHEELER,
President, University of California

"It is the record of a great and useful work in the cause of public education."

WILLIAM H. MAXWELL,
City Superintendent of Schools

"Of the educational value of the Museum's exhibits I was already well aware and feel a debt of gratitude to its officers and the city that supports it for the better understanding of nature on my own part and on that of my family, which frequent visits to the Museum afforded us during our residence in New York."

ERNEST FOX NICHOLS,
President, Dartmouth College

"If ever the schools were in danger of claiming a monopoly of education, such enterprises as this of yours must have awakened them from their dreaming. I am sure it is good for all of us who are engaged in educational work in the narrower sense to feel that the scope of the work is broader than our own endeavors."

ALEXANDER MEIKLEJOHN,
President, Amherst College

"At least yearly, during my visits to New York, I go to the Museum to note the improvements and additions. I have fully realized that in recent years, and especially since the naturalistic method of installation has been adopted, the Museum has become a great educational force for the state of New York and for the country."

CHARLES R. VAN HISE,
President, The University of Wisconsin

"I wish to thank you for the copy of the 45th Annual Report of the Trustees of the American Museum of Natural History, and to congratulate you again upon the great work the Museum is doing in the field of exploration, museum exhibits and education."

CHARLES D. WALCOTT,
Secretary, Smithsonian Institution

"It is always an extremely interesting document to me, and the last one is especially attractive. It is good to keep track of your ever increasing activities, and I regret that there should be even a brief halt in your building operations."

RICHARD RATHBUN,
Assistant Secretary in Charge,
United States National Museum

"I shall read all of it with much pleasure, but particularly that part relating to the educational work of the Museum. The extent and quality of this work should be very gratifying to you. It is an inspiration to the rest of us."

H. W. KENT,
Secretary, The Metropolitan Museum of Art

"I am impressed by the fact that you are making a very successful effort to bring about coöperation between the Museum and the public school system of your city."

BARTON W. EVERMANN,
Director, California Academy of Sciences

V. APPRECIATION FROM THE PUBLIC SCHOOLS

The Bird Collections a Real Enjoyment
Public School No. 113, Manhattan

"I do not know how we ever had any bird study down in this section of the city before the Museum began to lend us the collections of birds. Now we have not only the study of the birds but the children draw them in color, thus doubling the enjoyment. I keep the birds near my office door and no child passes without giving a good long look in their direction."

The Jesup Collection a Stimulus for Wood Collections Made by Boys
Public School No. 150, Brooklyn

"The children are told of things in nature but rarely have the opportunity of seeing them except through the collections. The class of 5A boys were interested in examining the different woods at the Museum. One boy made a collection of hard woods, which the other boys take great pleasure in studying."

The Mounted Bird Means Much in the Imagination of the City Child
Public School No. 76, Manhattan, Grade 2B

"These little people of the second grade, brought up under the abnormal conditions of the city, love the birds of the collection. They smooth and pet them, and even kiss them when I am not watching."

The Museum Gives Children a Greater Love for Living Animals
Public School No. 76, Manhattan

"As our pupils live within walking distance of the Museum, they go there frequently. The great attractions for the boys are the wonderful

Indian collections. For class use the bird collections are prime favorites. All our teachers tell me of the pleasure it gives their children to be permitted to touch these specimens carefully and tenderly.

"The members of one class of 4B boys were very enthusiastic over the skeleton of Jumbo. This enthusiasm, as usual, found expression in greater love for the living animal, for we learned while a class was planting seed that one little boy had gone to the park during his luncheon hour and planted some seed near the elephants' house."

Children Remember What They Learn at The Museum

Public School No. 25, Manhattan

"The knowledge obtained both from the collections sent us and the lectures given at the Museum means much more to the children than that obtained from books. The information is so definite and interesting that it creates a strong and lasting impression upon the minds of the children, and they are thus able to retain it very effectually."

A Letter to Make The Museum Desire to do Still More for The Schools

Public School No. 84, Brooklyn

"Many of our pupils are children who never see the country and who are totally unacquainted with any birds or insects found outside of the crowded city streets. The specimens enable these children to form correct conceptions of otherwise fabulous creatures.

"In their own way the children show quite as much appreciation as their teachers. The first question they invariably ask is, 'Is it real?' When assured upon this point they are always deeply interested, and very anxious to 'feel how soft the bird's coat is!' Each new interest endures as a helpful foundation for further work. Allusions to any subject studied with the help of Museum specimens bring an immediate and intelligent response."

Thirty-six Museum Lectures Attended

Public School No. 184, Manhattan

"Our higher classes have attended thirty-six lectures which helped to fix the grade work, were an entertainment and brought out a pleasant attitude toward their work. Among the favorite lectures were 'From Pole to Pole,' 'Early Days in New York,' 'Natural Resources of the United States,' and 'Life Among the Indians.' These afforded material for geography, history, nature study and language work."

Word From a Distant School

Public School No. 59, Brooklyn

"My school is located at so great a distance from the Museum that it is not possible to send classes there because of the carfare involved. Thus my teachers and I welcome the collections sent to the school, and the children are always delighted to see the boxes and to study their contents."

The Children of "Little Italy of The West Side"

Industrial School No. 5

"When the Museum of Natural History was brought down to Industrial School No. 5, in the shape of suitable collections in sequence for study, it was a good thing for the children of 'Little Italy of the West Side,' who live so far down town, near Sullivan, MacDougal and West Houston Streets, that they have little opportunity to go to the Museum.

"The children like the birds especially and it is remarkable the aptitude with which they learn to know them. The humming bird is a great delight and the solemn owls are studied with round-eyed wonder. Three classes were taken to the Museum last term. Their experiences are always related at home to the other members of the family, and in this way the benefit is far reaching."

The School Children of New York Help The Museum to a Greater Usefulness

Public School No. 10, Manhattan

"Many of the children know not even of the existence of such a place until they have accompanied their teacher to view some exhibit. Their delight then sends them home to tell parents and friends of their wonderful 'find,' and again and again they visit the enchanted ground with varying groups of acquaintances. So in their childish way, by making the Museum known to the greater mass of the citizens of New York, they help it to a greater and ever widening realization of its usefulness."

The Museum Has Justified All it Cost by What It Does For Children of Elementary Schools

Public School No. 50, Manhattan

"I have not seen equalled in any European country the hospitality with which the Museum has opened its doors to the children, providing guides to escort them through the building. The children

have been intelligent and eager listeners to the lectures, and have always returned to school the following day enthusiastic over their experience, which provided an outing for many whose lives are not often gladdened, while affording instruction as well as rare pleasure.

"It has been the good fortune of Public School No. 50 to have lecturers like Mr. Sherwood and Mrs. Roesler come to the children in their own school and show them, from specimens sent by the Museum, the characteristics of many birds whose notes they reproduced to the great pleasure of the children. It is a 'red-letter day' in Public School No. 50 when a new case of specimens arrives and is exhibited to the children.

"We feel that the Museum would have justified all that it has cost if it were only for what it does for the children of the elementary schools."

APPENDIX I.

NATURE-STUDY COLLECTIONS

Loaned to the Public Schools by

THE AMERICAN MUSEUM OF NATURAL HISTORY

To meet the numerous requests received from teachers to supply them with nature-study material, The American Museum of Natural History has prepared several small collections of natural-history specimens, which are loaned for short periods to the public schools of Greater New York. These collections are as follows:

NATIVE BIRDS. ADAPTED FOR GRADES 1A–4B:

Owl Set—Containing owl, chickadee, nuthatch, song sparrow, kinglet

Blue Jay Set—Containing blue jay, woodpecker, crossbill, junco, English sparrow

Robin Set—Containing robin, red-winged blackbird, oriole, meadow-lark, chipping sparrow

Bluebird Set—Containing bluebird, phoebe, barn swallow, house wren, chimney swift

Tanager Set—Containing scarlet tanager, red-eyed vireo, goldfinch, humming-bird, pigeon

SMALL MAMMALS. ADAPTED FOR GRADES 1A–5A:

Containing a representative of each of four distinct groups of animals: The mole, an animal that lives underground; the bat, an animal that flies through the air; the squirrel, a rodent or gnawing animal; and the weasel, a carnivore or predatory, flesh-eating animal

INSECTS. ADAPTED FOR GRADES 2A–5A:

Containing cynthia and cecropia moths, monarch butterfly, etc., and typical representatives of the different groups of insects

ECONOMIC INSECTS. ADAPTED FOR GRADES 2A–5A:

Specimens representing the complete life-history of the silkworm, a useful insect, and of the tent caterpillar, an injurious insect

SPECIAL INSECTS. ADAPTED FOR GRADES 2A–5A:

Containing life-history of cecropia moth, development of monarch butterfly, life and work of honey-bee, and household insects

MOLLUSKS. ADAPTED FOR GRADES 4A AND 5A:

Containing shells of about twenty-five mollusks, including specimens of the oyster, clam and chambered nautilus

CRABS. ADAPTED FOR GRADE 5A:

Containing relatives of the common blue crabs

Starfishes and Worms. Adapted for Grades 4A and 5A:

Containing typical species of the two groups

Sponges and Corals. Adapted for Grades 4A and 5A:

Containing about fifteen species of corals and their relatives

Minerals and Rocks. Adapted for Grades 3B and 4A:

Containing twenty specimens of minerals and building stones

Native Woods. Adapted for Grades 2A and 5B:

Containing elm, hickory, maple, white birch, ailanthus, sweet-gum, sour-gum, chestnut, sycamore. Specimens show cross, longitudinal and oblique sections of the wood, characteristic bark, annual rings, etc.

PUBLIC HEALTH FOLIOS

Adapted for Pupils of the High and Elementary Schools

Spread and Prevention of Communicable Disease:

Containing eighteen photographic charts illustrating how diseases are commonly spread and how they may be prevented

Insects and Disease:

Containing twelve photographic charts illustrating the life-histories of some common household insects, which carry disease. Conditions favorable for the breeding of these insects are also shown, as well as methods of extermination

Bacteria and Their Work in the World:

Containing eight photographic charts illustrating beneficial and harmful bacteria and their work

The specimens in the collections have been selected with a view to supplying material required in the Syllabus of Nature-Study issued by the Board of Education.

Each collection is accompanied by a set of notes, brief but in the nature of suggestions to teachers, giving facts on the structure, habits and characteristics of the particular species in the collection.

To the notes is appended a bibliography of the subject treated.

Memoranda regarding the Loan of Circulating Collections:

1. Applications for the use of collections should be made by the Principal
2. Applications should be addressed to the
   Curator, Department of Public Education,
   American Museum of Natural History
3. Messengers of the Museum will deliver the collections and transfer them at the end of the loan periods, without expense to school or teacher
4. Collections may be retained for a period of three weeks

APPENDIX II.

A. Complete List of Public Schools, Parochial Schools, Private Schools, Colleges and Universities, Medical Schools, Schools of Art and Design, Libraries and other Educational Organizations utilizing the American Museum of Natural History for Visual Instruction during the year 1917

Public Schools of Greater New York

ELEMENTARY AND GRAMMAR SCHOOLS

Borough of Manhattan P. S. No.		Borough of Bronx P. S. No.	Borough of Brooklyn P. S. No.		Borough of Queens P. S. No.	Borough of Richmond P. S. No.
1	63	1	1	74	1	1
2	64	2	2	75	2	2
3	66	3	3	79	3	3
4	67	4	4	80	4	5
5	68	5	5	82	5	8
6	69	6	6	83	6	9
7	70	7	8	84	7	10
8	71	8	9	86	11	12
9	72	9	10	87	12	14
10P.	73	10	11	88	13	15
10G.	76	11	12	90	14	17
11	77	12	13	91	15	18
12	79	13	16	93	16	19
13P.	81	14	17	94	19	20
13G.	82	16	18	95	20	21
14	83	18	19	96	21	24
15	84	19	20	100	22	27
16	85	21	21	101	23	28
17	86	24	23	102	24	29
18	87	25	24	103	25	30
20	88	26	25	105	27	32
21	89	27	26	106	28	33
22	90	28	27	107	29	34
24	91	30	28	108	31	----
25	92	31	29	109	34	----
26	93	32	30	110	36	----
27	94	33	31	111	40	----
28	95	34	32	116	52	----
29	96	36	34	117	53	----
30	97	37	36	118	54	----
31	101	38	39	119	55	----
32	102	39	40	122	58	----
33	104	42	41	124	61	----
34	105	43	42	125	64	----
35	106	44	43	126	65	----
36	109	45	44	129	68	----
37	110	46	45	130	75	----
38	114	48	48	131	77	----
39	116	50	49	133	79	----
40	117	51	50	134	81	----
41	119	52	51	135	82	----
42	121	53	52	136	84	----
43	122	54	53	137	88	----
44	124	55	55	140	89	----
45	127	56	57	141	90	----
46	130	----	58	142	92	----
47	131	----	60	143	93	----
48	132	----	61	144	97	----
50	134	----	62	145	101	----
51	137	----	63	146	----	----
52	140	----	64	147P.	----	----
53	141	----	65	147G.	----	----
54	147	----	66	148	----	----
55	150	----	67	149P.	----	----
56	151	----	68	149G.	----	----
57	157	----	69	150	----	----
58	158	----	70	154	----	----
59	159	----	71	155	----	----
61	160	----	72	156	----	----
62	161	----	73	157	----	----

PUBLIC SCHOOLS, ETC.—*Continued*

Borough of Manhattan P. S. No.		Borough of Bronx P. S. No.	Borough of Brooklyn P. S. No.		Borough of Queens P. S. No.	Borough of Richmond P. S. No.
165	177	----	158	168	----	----
166	179	----	159	170	----	----
168	183	----	162	172	----	----
169	184	----	164	173	----	----
170	186	----	165	175	----	----
171	188	----	167	178	----	----
172	190	----		----	----	----
174	192	----		----	----	----

CORPORATE AND INDUSTRIAL SCHOOLS

No. 1 Bennet Memorial
Industrial School No. 2
Industrial School No. 7
Industrial School No. 8
Industrial School No. 12
Industrial School No. 16
6th Street Industrial School
Avenue B School
Home School
Jones Memorial
School for Crippled Children

HIGH SCHOOLS

MANHATTAN

De Witt Clinton
East Side Evening High School
High School of Commerce
Hunter College High School
Julia Richman
Stuyvesant
Wadleigh
Washington Irving

BRONX

Evander Childs
Morris
Women's Evening High School

BROOKLYN

Bay Ridge
Bushwick
Brooklyn Vocational School

BROOKLYN

Boys' High School
Commercial
Eastern District
Erasmus Hall
Girls' High School
Manual Training

QUEENS

Bryant
Far Rockaway
Flushing
Jamaica
Newtown
Richmond Hill

RICHMOND

Curtis High School

TRAINING SCHOOLS

MANHATTAN

Model School Hunter College
New York Training School for Teachers

BROOKLYN

Brooklyn Training School for Teachers

PAROCHIAL SCHOOLS

NEW YORK CITY

Our Lady of Lourdes
Our Lady of Mercy
St. Alphonsus
St. Angela's
St. Ann's
St. Catherine's
St. Joseph's
St. Lucy's
St. Mary's
St. Matthew's
St. Michael's
St. Paul's
St. Philip Neri's
St. Raphael's
Ursuline Academy

PUBLIC SCHOOLS OUTSIDE OF GREATER NEW YORK

ELEMENTARY AND GRAMMAR SCHOOLS

BAYONNE, N. J.
No. 1

BLOOMFIELD, N. J.
Berkeley

COLLEGE POINT, N. Y.
No. 28

ELIZABETH, N. J.
No. 9

FANWOOD, N. J.
Public School

HACKENSACK, N. J.
No. 2

PUBLIC SCHOOLS, ETC.—*Continued*

JERSEY CITY, N. J.
No. 28 and No. 32
HAWORTH, N. J.
Public School
IRVINGTON, N. J.
Coit Street School
HILLBURN, N. Y.
Public School
LEONIA, N. J.
Public School
LITTLE FERRY, N. J.
Public School
MT. VERNON, N. Y.
Jefferson School
NEWARK, N. J.
Cleveland School
John Catlin School
Lafayette School
Prospect Hill School
Washington St. School
NEW ROCHELLE, N. Y.
Winyah School
PASSAIC, N. J.
P. S. No. 10
RUTHERFORD, N. J.
Sylvan Park School
SECAUCUS, N. J.
P. S. No. 5
SPRING VALLEY, N. Y.
Public School
WEST NEW YORK, N. J.
P. S. No. 1
WESTFIELD, N. J.
Grant School
WEST ORANGE, N. J.
Hazel Avenue School
WOOD RIDGE, N. J.
Public School
YONKERS, N. Y.
P. S. No. 10
P. S. No. 14
P. S. No. 20
P. S. No. 21

HIGH SCHOOLS

COOPERSBURG, PA.
High School
DUMONT, N. J.
Dumont High School
HARRISON, N. J.
High School
HOBOKEN, N. J.
West Hoboken High School
JERSEY CITY, N. J.
Dickinson High School
Lincoln High School
LYNBROOK, N. J.
High School
MONTCLAIR, N. J.
Montclair High School
NEWARK, N. J.
Central High School
Senior High School
NEWBURG, N. Y.
Newburg High School
ROSELLE PARK, N. J.
Roselle Park High School
TRENTON, N. J.
Junior High School
SAN JOSÉ, CAL.
San José High School
WOODBRIDGE, N. J.
Woodbridge High School

PRIVATE SCHOOLS

MANHATTAN
Alcuin School (Preparatory)
Auerbach Tutoring School
Berkeley-Irving
Brearley School
Chandor School
Charlton School
Chelsea School
Chief School
Collegiate School
De Lancey School
Ethical Culture School
Florence Nightingale School
Finch School
Francis Xavier
Eron Preparatory
Gardner School
Froebel League
Hebrew Technical Institute
Horace Mann
Jacobi School
Kirmayer School
Jenny Hunter Kindergarten
Lawrence-Smith School
Lehmann School
The Lincoln School
New York Kindergarten
Pinneo School
Play School
MANHATTAN
Miss Chapin's School for Girls
Robert Louis Stevenson School
Riverdale School
Scudder School
Semple School
Social Motive School
St. Agatha's
St. Catherine's Academy
St. Luke's School
Spuyten Duyvil School
Veltin School
RICHMOND
Staten Island Academy
BROOKLYN
Bedford Institute
Mrs. Chase's School
Friends' School
Marquand School
Middleton Business School
Packer Collegiate Institute
Pratt Institute
BRONXVILLE, N. Y.
Brentwood Hall
OGONTZ, PA.
Ogontz School
MONTCLAIR, N. J.
Organic School

PRIVATE SCHOOLS, ETC.—*Continued*

MOUNT VERNON, N. Y.
Lincoln School

SCARBOROUGH, N. Y.
The Scarborough School

HARRISON, N. Y.
Rye Country School

LAKE GEORGE, N. Y.
Lake George School

COLLEGES AND UNIVERSITIES

NEW YORK CITY
College of the City of New York
Columbia University
Barnard College
Summer School
Teachers' College
Hunter College
New York University

POUGHKEEPSIE, N. Y.
Vassar College

NEW LONDON, CONN.
Connecticut College for Women

ITHACA, N. Y.
Cornell University

LEHIGH, PA.
Lehigh University

NEW BRUNSWICK, N. J.
Rutgers College

MEDICAL SCHOOLS

NEW YORK CITY
Bellevue Hospital
Training School for Nurses
Mount Sinai Hospital
Training School for Nurses
St. Luke's Hospital
Training School for Nurses

NEW YORK CITY
Sloane Hospital for Women
Training School for Nurses

LONG ISLAND CITY
Long Island College Hospital
Training School for Nurses

SCHOOLS OF ART AND DESIGN

NEW YORK CITY
Art Department Teachers' College, Columbia University
Beaux Arts
Keramic Society of Greater New York
New York School of Fine and Applied Arts

NEW YORK CITY
School of Applied Design for Women

BROOKLYN, N. Y.
Pratt Institute

PATERSON, N. J.
Elementary Art Schools

LIBRARIES

NEW YORK CITY
Aguilar Branch Library
Hamilton Fish Park Branch Library
Hamilton Grange Branch Library
Highbridge Branch Library
St. Gabriel Park Branch Library
Woodstock Branch Library
West 40th Street Branch Library
67th Street Branch Library

NEW YORK CITY
96th Street Branch Library
Webster Branch Library

SAN ANTONIO, TEX.
Carnegie Library

UTICA, N. Y.
Utica Public Library

MISCELLANEOUS EDUCATIONAL ORGANIZATIONS

NEW YORK CITY
American Academy of Arborists
American Asiatic Association
American Association of Museums
American Ethnological Society
American Medical Association
American Red Cross
American Scenic and Historic Preservation Society
Aquarium Society

NEW YORK CITY
Art and Science Club
Boy Scouts of America
Bronx Italian M. E. Church
Camp Fire Girls of America
Catherine Abbé Club
Catholic Protectory
Chautauqua Bird and Tree Club
City History Club of New York
Colonial Dames Club

MISCELLANEOUS EDUCATIONAL ORGANIZATIONS—*Continued*

NEW YORK CITY
- Cooper Union
- Department of Education, New York City, free public lecture courses
- Educational Alliance
- Elsie Rutgers Club
- Fenimore St. M. E. Sunday School
- Forestry Club of the DeWitt Clinton High School
- Gouverneur Morris Club
- Henry Street Settlement
- Horticultural Society of New York
- House of Prayer
- Inkowa Club
- Joan of Arc Club
- Junior Auxiliary of the New York Zoölogical Society
- Lincoln House
- Linnaean Society of New York
- Meinhardt Neighborhood House
- National Association of Audubon Societies for the Protection of Wild Birds and Animals
- Natural Science Committee of the Associate Alumnae of Hunter College of the City of New York

NEW YORK CITY
- New York Academy of Sciences
- New York Entomological Society
- New York Institution for Improved Instruction for the Deaf
- New York Library Club
- New York Microscopical Society
- New York Mineralogical Club
- New York State Historical Association
- Swiss Scientific Society
- Torrey Botanical Club
- University Forum
- Young Men's Christian Association
- Young Men's Hebrew Association

COLD SPRING HARBOR, N. Y.
- Cold Spring Harbor Summer School

RICHMOND HILL, N. Y.
- Richmond Hill Settlement

STAMFORD, CONN.
- Camp Fire Girls of America

OHIO
- Ohio Corn Boys

B. CLASSIFICATION ACCORDING TO MUSEUM ACTIVITIES

PUBLIC SCHOOLS, PRIVATE SCHOOLS, PAROCHIAL SCHOOLS AND OTHER EDUCATIONAL ORGANIZATIONS ATTENDING **LECTURES FOR SCHOOL CHILDREN** AT THE AMERICAN MUSEUM OF NATURAL HISTORY, 1917

LECTURES FOR SCHOOL CHILDREN AT THE MUSEUM

No. of Lectures Given	**73**
Total Attendance	**40,798**

PUBLIC SCHOOLS OF GREATER NEW YORK

ELEMENTARY AND GRAMMAR SCHOOLS

Borough of Manhattan P. S. No.		Borough of Bronx P. S. No.	Borough of Brooklyn P. S. No.	Borough of Queens P. S. No.	Borough of Richmond P. S. No.
1	39	2	----	3	----
2	41	3	----	16	----
3	43	4	----	24	----
5	46	5	----	84	----
6	47	6	----	93	----
8	48	7	----	101	----
9	51	8	----	----	----
10	52	9	----	----	----
11	53	10	----	----	----
12	54	11	----	----	----
16	55	14	----	----	----
17	56	16	----	----	----
18	57	27	----	----	----
21	58	28	----	----	----
24	59	34	----	----	----
26	64	42	----	----	----
28	66	43	----	----	----
29	67	44	----	----	----
32	68	45	----	----	----
33	69	46	----	----	----
35	76	48	----	----	----
36	77	50	----	----	----

PUBLIC SCHOOLS OF GREATER NEW YORK—*Continued*

Borough of Manhattan P. S. No.		Borough of Bronx P. S. No.	Borough of Brooklyn P. S. No.	Borough of Queens P. S. No.	Borough of Richmond P. S. No.
82	147	51	----	----	----
84	150	52	----	----	----
86	151	53	----	----	----
87	157	54	----	----	----
89	159	55	----	----	----
91	165	----	----	----	----
93	166	----	----	----	----
94	169	----	----	----	----
95	170	----	----	----	----
96	171	----	----	----	----
101	172	----	----	----	----
102	184	----	----	----	----
104	186	----	----	----	----
106	188	----	----	----	----
114	190	----	----	----	----
141	192	----	----	----	----

CORPORATE AND INDUSTRIAL SCHOOLS

MANHATTAN

Industrial School No. 2 — Industrial School No. 7 — Rhinelander School

HIGH SCHOOLS

MANHATTAN
De Witt Clinton
Hunter College High School
Julia Richman
Stuyvesant
Wadleigh
Washington Irving

BRONX
Evander Childs
Morris

BROOKLYN
Bay Ridge
Brooklyn Vocational School

BROOKLYN
Eastern District

QUEENS
Bryant
Newtown

TRAINING SCHOOLS

MANHATTAN
Model School, Hunter College

BROOKLYN
Brooklyn Training School for Teachers

PAROCHIAL SCHOOLS

NEW YORK CITY

Our Lady of Lourdes — St. Catherine's — St. Matthew's
Our Lady of Mercy — St. Joseph's — Ursuline Academy
St. Angela's — St. Mary's

PRIVATE SCHOOLS

NEW YORK CITY

Auerbach Tutoring School — Ethical Culture School — Marquand School
Collegiate School — Lehmann School

MISCELLANEOUS EDUCATIONAL ORGANIZATIONS AND INSTITUTIONS

NEW YORK CITY
Chautauqua Bird and Tree Club

PUBLIC SCHOOLS ATTENDING LECTURES FOR SCHOOL CHILDREN AT **LOCAL LECTURE CENTERS**

LECTURES FOR SCHOOL CHILDREN AT LOCAL LECTURE CENTERS
No. of Lectures Given__ 30
Total Attendance_____ 38,525

ELEMENTARY AND GRAMMAR SCHOOLS

Borough of Manhattan P. S. No.		Borough of Bronx P. S. No.	Borough of Brooklyn P. S. No.	Borough of Queens P. S. No.	Borough of Richmond P. S. No.
11	64	42	170	20	New Brighton
13	71	53	(Parents' Assn.)	----	Public Schools
15	88	55	----	----	----
19	91	----	----	----	----
36	110	----	----	----	----
38	126	----	----	----	----
41	131	----	----	----	----
63	171	----	----	----	----
	188B.	----	----	----	----

PUBLIC SCHOOLS, UNIVERSITIES, COLLEGES, PRIVATE SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS AND ORGANIZATIONS UTILIZING THE **LANTERN SLIDES** OF THE AMERICAN MUSEUM OF NATURAL HISTORY, 1917

FREE LOANS OF LANTERN SLIDES
No. Slides Catalogued__ 20,900
No. Slides Circulated___ 63,111

Public Schools of Greater New York

ELEMENTARY AND GRAMMAR SCHOOLS

Borough of Manhattan P. S. No.		Borough of Bronx P. S. No.		Borough of Brooklyn P. S. No.		Borough of Queens P. S. No.	Borough of Richmond P. S. No.
2	62	2	42	3	110	6	20
10	64	3	43	8	126	20	----
11	95	4	44	72	136	22	----
12	97	5	45	73	144	27	----
34	109	6	50	83	148	31	----
38	158	8	51	84	149	34	----
43	166	11	52	89	156	----	----
Speyer	168	16	53	93	165	----	----
46	169	27	54	95	170	----	----
52	170	28	55		178	----	----

HIGH SCHOOLS

MANHATTAN
- De Witt Clinton
- High School of Commerce
- Stuyvesant
- Wadleigh
- Washington Irving

BROOKLYN
- Bay Ridge
- Bushwick
- Girls' High School

BRONX
- Evander Childs

QUEENS
- Bryant
- Flushing
- Jamaica
- Newtown
- Richmond Hill

RICHMOND
- Curtis

TRAINING SCHOOLS

MANHATTAN
- Hunter College
- New York Training School for Teachers

BROOKLYN
- Brooklyn Training School for Teachers

Private Schools

New York City
- Brearley School
- Chief School
- Collegiate School
- Ethical Culture School

New York City
- Horace Mann
- Lawrence-Smith School
- Scudder School
- Veltin School

Bronxville, N. Y.
- Brentwood Hall

Brooklyn, N. Y.
- Marquand School
- Riverdale School

Colleges and Universities

New York City
- College of the City of New York
- Columbia University
- New York University

Ithaca, N. Y.
- Cornell University

New London, Conn.
- Connecticut College for Women

Miscellaneous Educational Organizations and Institutions

New York City
- Art and Science Club
- Boy Scouts of America
- Brown Brothers, Photographers
- Bronx Italian M. E. Church
- Cooper Union
- Educational Alliance
- Episcopal City Mission
- Hebrew Technical Institute
- Linnaean Society of New York
- Metropolitan Museum of Art
- New York Botanical Garden
- New York Zoölogical Park
- New York Public Library (Webster Branch)
- Underwood & Underwood, Photographers
- University Forum
- Young Men's Christian Association
- Young Men's Hebrew Association

Brooklyn, N. Y.
- Brooklyn Museum

Mount Vernon, N. Y.
- Mount Vernon High School

Newark, N. J.
- Newark Museum

Yonkers, N. Y.
- P. S. No. 21

New Brighton, Staten Island
- Public Museum

Roselle, N. J.
- Roselle High School

Newark, N. J.
- State Normal School

PUBLIC SCHOOLS, PRIVATE SCHOOLS, PAROCHIAL SCHOOLS, UNIVERSITIES, COLLEGES AND OTHER EDUCATIONAL ORGANIZATIONS **VISITING** THE AMERICAN MUSEUM OF NATURAL HISTORY, 1917

VISITING CLASSES

Public Schools of Greater New York

ELEMENTARY AND GRAMMAR SCHOOLS

Borough of Manhattan P. S. No.	Borough of Bronx P. S. No.	Borough of Brooklyn P. S. No.	Borough of Queens P. S. No.	Borough of Richmond P. S. No.
1 85	7	5	28	1
4 87	10	12	36	8
6 89	14	82	40	12
8 90	16	165	84	15
9 93	30	----	88	----
10B.&G.94	37	----	90	----
17 95	39	----	----	----
30 106	55	----	----	----
38 110	----	----	----	----
43 114	----	----	----	----
54 122	----	----	----	----
56 166	----	----	----	----
62 169	----	----	----	----
64 179	----	----	----	----
68 184	----	----	----	----
84 192	----	----	----	----

HIGH SCHOOLS

MANHATTAN
De Witt Clinton
High School of Commerce
Julia Richman
Manhattan Trade School for Girls
Wadleigh
Washington Irving

BROOKLYN
Bay Ridge
Bushwick

BROOKLYN
Eastern District
Girls'

BRONX
Morris (Washington Heights Annex)

QUEENS
Bryant

RICHMOND
Curtis

TRAINING SCHOOLS

Model School, Hunter College

PAROCHIAL SCHOOLS

NEWARK, N. J.
House of Prayer

BROOKLYN, N. Y.
St. Alphonsus

HOBOKUS, N. J.
St. Bartholomew's

BROOKLYN, N. Y.
St. Joseph's

NEW YORK CITY
St. Lucy's
St. Raphael's

PUBLIC SCHOOLS OUTSIDE OF GREATER NEW YORK

ELEMENTARY AND GRAMMAR SCHOOLS

BAYONNE, N. J.
P. S. No. 1

BLOOMFIELD, N. J.
Berkeley

COLLEGE POINT, N. Y.
P. S. No. 28

ELIZABETH, N. J.
P. S. No. 9

FANWOOD, N. J.
Public School

HACKENSACK, N. J.
Public School

HAWORTH, N. J.
Public School

IRVINGTON, N. J.
Coit Street

JERSEY CITY, N. J.
P. S. No. 28
P. S. No. 32

LEONIA, N. J.
Public School

LITTLE FERRY, N. J.
Public School

MONTCLAIR, N. J.
Public School

MOUNT VERNON, N. Y.
Jefferson School

NEWARK, N. J.
Cleveland School
John Catlin School
Lafayette School
Washington Street School

NEW ROCHELLE, N. Y.
Winyah School

PASSAIC, N. J.
P. S. No. 10

SECAUCUS, N. J.
P. S. No. 5

SPRING VALLEY, N. Y.
Public School

WEST NEW YORK, N. J.
P. S. No. 1

WESTFIELD, N. J.
Grant School

WEST ORANGE, N. J.
Hazel Avenue School

WOODRIDGE, N. J.
Public School

YONKERS, N. Y.
Public School
P. S. No. 14
P. S. No. 20
P. S. No. 21

HIGH SCHOOLS

COOPERSBURG, PA.
High School

HARRISON, N. J.
High School

JERSEY CITY, N. J.
Dickinson High School
Lincoln High School

LYNBROOK, N. Y.
High School

NEWARK, N. J.
Senior High School

ROSELLE PARK, N. J.
Roselle Park High School

TRENTON, N. J.
Junior High School

Colleges and Universities

New York City
- Barnard College
- Columbia University
- Columbia Summer School
- Columbia University—Teachers College

New York City
- Hunter College
- Hunter College Summer School

South Bethlehem, Pa.
- Lehigh University

Private Schools

New York City
- Alcuin Preparatory
- Chandor
- Charlton
- Chelsea
- De Lancey
- Ethical Culture
- Gardner School
- Francis Xavier
- Hebrew Technical Institute
- Jenny Hunter Kindergarten
- Kirmayer
- The Lincoln School

New York City
- New York Collegiate Institute
- Pinneo School
- Play School
- Robert Louis Stevenson School
- St. Agatha
- St. Catherine's Academy
- Spuyten Duyvil School
- Ursuline Academy

Douglas Manor, N. Y.
- Garden School

New Brighton, Staten Island
- Staten Island Academy

Brooklyn, N. Y.
- Bedford Institute
- Mrs. Chase's School
- Friends' School
- Pratt Institute

Harrison, N. Y.
- Rye Country School

Montclair, N. J.
- Organic School

Mount Vernon, N. Y.
- Lincoln School

Scarborough, N. Y.
- Scarborough School

Schools of Art and Design

Manhattan

New York School of Fine and Applied Arts — New York Kindergarten Association

Medical Schools

New York City
- Bellevue Hospital School of Nursing
- Mt. Sinai Hospital School of Nursing

New York City
- St. Luke's Hospital School of Nursing
- Sloane Hospital School of Nursing

Miscellaneous Educational Organizations and Institutions

Bronxville, N. Y.
- Boy Scouts

New York City
- Bureau of Welfare of School Children
- Chautauqua Bird and Tree Club
- Ft. Washington Presbyterian Church
- Lincoln House
- New York Institution for the Improved Instruction of the Deaf
- Torrey Botanical Club
- United States Sailors

Long Island
- Camp Fire Girls

Brooklyn, N. Y.
- Fenimore Street M. E. Sunday School

Brooklyn, N. Y.
- Middleton Business School

Ohio
- Ohio Corn Boys

Jersey City, N. J.
- Sabbath School

PUBLIC LIBRARIES UTILIZING THE **CIRCULATING COLLECTIONS** OF THE AMERICAN MUSEUM OF NATURAL HISTORY, 1917

CIRCULATING COLLECTIONS FOR PUBLIC LIBRARIES
No. of Children reached 26,802
No. of Adults reached.. 2,578

New York City
- Aguilar Branch Library
- Hamilton Fish Park Branch Library
- Hamilton Grange Branch Library
- Highbridge Branch Library
- St. Gabriel Park Branch Library
- Woodstock Branch Library
- West 40th Street Branch Library

New York City
- 67th Street Branch Library
- 96th Street Branch Library

San Antonio, Texas
- Carnegie Library

Utica, N. Y.
- Utica Public Library

PUBLIC SCHOOLS UTILIZING THE MUSEUM'S SPECIAL **INSTRUCTION FOR THE BLIND,** 1917

INSTRUCTION FOR THE BLIND
Correlated with classroom work in the schools

NEW YORK CITY
P. S. No. 6, Manhattan
P. S. No. 17, Manhattan
P. S. No. 44, Manhattan
P. S. No. 110, Manhattan
P. S. No. 166, Manhattan
P. S. No. 171, Manhattan
P. S. No. 186, Manhattan
P. S. No. 45, Bronx
NEWARK, N. J.
Washington Street School

PUBLIC SCHOOLS, PRIVATE SCHOOLS, UNIVERSITIES, COLLEGES AND OTHER EDUCATIONAL ORGANIZATIONS AND INSTITUTIONS MAKING USE OF THE **DOCENT SERVICE** OF THE AMERICAN MUSEUM OF NATURAL HISTORY, 1917

FREE DOCENT SERVICE

PUBLIC SCHOOLS OF GREATER NEW YORK

ELEMENTARY AND GRAMMAR SCHOOLS

Borough of Manhattan P. S. No.	Borough of Bronx P. S. No.	Borough of Brooklyn P. S. No.	Borough of Queens P. S. No.	Borough of Richmond P. S. No.
1	7	12	28	8
8	10	----	----	----
38	14	----	----	----
62	30	----	----	----
122	----	----	----	----
179	----	----	----	----

HIGH SCHOOLS

MANHATTAN
De Witt Clinton
Manhattan Trade School for Girls

BROOKLYN
Bay Ridge
Eastern District

QUEENS
Bryant

RICHMOND
Curtis

PUBLIC SCHOOLS OUTSIDE OF GREATER NEW YORK

BAYONNE, N. J.
Public School

LEONIA, N. J.
Public School

NEW ROCHELLE, N. Y.
Public School

YONKERS, N. Y.
Public School

PRIVATE SCHOOLS

NEW YORK CITY
Chandor
Ethical Culture
Kirmayer

DOUGLAS MANOR, N. Y.
Garden

BOROUGH OF RICHMOND, NEW YORK CITY
Staten Island Academy

COLLEGES AND UNIVERSITIES

NEW YORK CITY

Barnard | Columbia Summer School | Hunter College | Hunter College Summer School

MISCELLANEOUS EDUCATIONAL ORGANIZATIONS AND INSTITUTIONS

BRONXVILLE, N. Y.
Boy Scouts

NEW YORK CITY
Bureau of Welfare for School Children
Chautauqua Bird and Tree Club
Ft. Washington Presbyterian Church
Lincoln House
Middleton Business School
Sloane Hospital Training School for Nurses
Torrey Botanical Club

MISCELLANEOUS EDUCATIONAL ORGANIZATIONS, ETC.—*Continued*

NEW YORK CITY
United States Sailors

COLD SPRING HARBOR, N. Y.
Cold Spring Harbor Summer School

LONG ISLAND
Camp Fire Girls

OHIO
Ohio Corn Boys

JERSEY CITY, N. J.
Sabbath School

PUBLIC SCHOOLS, UNIVERSITIES, COLLEGES, PRIVATE SCHOOLS AND OTHER EDUCATIONAL ORGANIZATIONS UTILIZING THE **CIRCULATING NATURE STUDY COLLECTIONS** OF THE AMERICAN MUSEUM OF NATURAL HISTORY, 1917

NATURE STUDY COLLECTIONS
No. of Collections in Circulation 712
No. of Schools Supplied ... 446
No. of Pupils Reached 1,075,076

PUBLIC SCHOOLS OF GREATER NEW YORK

ELEMENTARY AND GRAMMAR SCHOOLS

Borough of Manhattan P. S. No.		Borough of Bronx P. S. No.	Borough of Brooklyn P. S. No.		Borough of Queens P. S. No.	Borough of Richmond P. S No.
1	51	1	1	60	1	1
2	52	2	2	61	2	2
3	53	4	4	62	4	3
4	54	5	5	63	5	5
5	56	6	6	64	6	8
6	57	7	8	65	7	9
7	58	8	9	66	11	10
8	59	9	10	67	12	14
9	61	10	11	68	13	15
10P.	62	11	12	69	14	17
10G.	63	12	13	70	15	18
11	64	13	16	71	16	19
12	66	14	17	72	19	20
13P.	67	16	18	73	20	21
13G.	68	18	19	74	21	24
14	69	19	20	75	22	27
15	70	21	21	79	23	28
16	71	24	23	80	24	29
17	72	25	24	82	27	30
18	73	26	25	83	28	32
20	76	27	26	84	29	33
21	77	28	27	86	31	34
22	79	30	28	87	34	----
25	81	31	29	88	52	----
26	83	32	30	90	53	----
27	84	33	31	91	54	----
28	85	34	32	93	55	----
29	86	37	33	94	58	----
30	87	38	34	95	61	----
31	88	42	36	96	64	----
32	89	43	39	100	65	----
33	90	44	40	102	68	----
34	91	45	41	103	75	----
35	92	48	42	105	77	----
36	93	50	43	106	79	----
37	94	52	44	107	81	----
38	95	53	45	108	82	----
39	96	54	47	109	89	----
40	97	55	48	110	92	----
41	101	56	49	111	97	----
42	102	----	50	116	----	----
43	104	----	51	117	----	----
44	105	----	52	118	----	----
45	106	----	53	119	----	----
46	107	----	55	122	----	----
48	108	----	57	124	----	----
50	109	----	58	125	----	----

PUBLIC SCHOOLS, ETC.—*Continued*

Borough of Manhattan P. S. No.		Borough of Bronx P. S. No.	Borough of Brooklyn P. S. No.		Borough of Queens P. S. No.	Borough of Richmond P. S. No.
110	151	----	126	149P.	----	----
112	157	----	129	149G.	----	----
114	158	----	130	150	----	----
115	159	----	131	154	----	----
116	160	----	133	155	----	----
117	161	----	134	156	----	----
119	166	----	135	157	----	----
121	168	----	136	158	----	----
122	169	----	137	159	----	----
124	170	----	140	162	----	----
127	171	----	141	164	----	----
130	174	----	142	165	----	----
131	177	----	143	167	----	----
132	179	----	144	168	----	----
134	183	----	145	169	----	----
137	184	----	146	170	----	----
140	186	----	147P.	172	----	----
147	188	----	147G.	173	----	----
150	190	----	148	175	----	----
	192	----		178	----	----

CORPORATE AND INDUSTRIAL SCHOOLS

New York City

Industrial School, West 38th St.
Industrial School, East 88th St.
Industrial School, East 109th St.
Sixth Street Industrial School
Industrial School No. 8
Industrial School No. 10
Industrial School No. 12
Jones Memorial School
Children's Aid Society
School for Crippled Children
Avenue B School
Henry Street Settlement
Home School

HIGH SCHOOLS

Manhattan

De Witt Clinton
East Side Evening High School
Evening School of Industrial Art
High School of Commerce
Hunter College High School
Julia Richman
Stuyvesant
Wadleigh
Washington Irving

Bronx

Evander Childs
Morris
Women's Evening High School

Brooklyn

Brooklyn Vocational School
Boys' High School
Bushwick High School
Commercial High School
Eastern District
Erasmus Hall
Manual Training
Vocational School for Boys

Queens

Bryant
Far Rockaway
Jamaica
Newtown

TRAINING SCHOOLS

Manhattan

New York Training School for Teachers

Brooklyn

Brooklyn Training School for Teachers

Parochial Schools

New York City

Catholic Protectory, Bronx
Ursuline Academy, Bronx

Schools of Art and Design

New York City
Beaux Arts
Woman's Art School, Cooper Union

Brooklyn, N. Y.
Pratt Institute

Private Schools

New York City
Berkeley-Irving
Brearley School
Chandor School
Miss Chapin's School for Girls
Ethical Culture School
Froebel League
Jacobi School

New York City
Meinhardt Neighborhood
Randel McIvor
Speyer School
Veltin School

Richmond Hill, N. Y.
Richmond Hill Settlement

Colleges and Universities

New York City
New York University

UNIVERSITIES, SCIENTIFIC INSTITUTIONS AND ORGANIZATIONS RECEIVING **FREE DISTRIBUTION OF BACTERIAL CULTURES** FROM THE DEPARTMENT OF PUBLIC HEALTH OF THE MUSEUM, 1917.

FREE DISTRIBUTION OF BACTERIAL CULTURES

The Abbott Alkaloidal Co.	Chicago	Illinois
Acquackanonk Township Schools	Clifton	New Jersey
Adirondack Cottage Sanitarium	Saranac Lake	New York
Adelphi College	Brooklyn	New York
Agatha Hospital	Clinton	Iowa
Agramonte, Dr. Aristides	16 W. 94th St.	New York City
Agricultural Experiment Station Univ. of Wisconsin	Madison	Wisconsin
Agricultural Experiment Station	Fort Collins	Colorado
Alabama Polytechnic Institute	Auburn	Alabama
Albany Bureau of Water	Albany	New York
Allegheny College	Meadville	Pennsylvania
Allentown Water Department	Allentown	Pennsylvania
Alexander & Co.	Marietta	Pennsylvania
American College of Bacteriology	Chicago	Illinois
American School of Osteopathy	Kirksville	Missouri
Appell, W. C.	Sandusky	Ohio
Appleton Academy	New Ipswich	New Hampshire
Armour & Co.	Chicago	Illinois
Army Medical School	Washington	District of Columbia
Atlantic Chemical Co.	Mansfield	Massachusetts
Atlantic County Vocational Board of Education	Minotola	New Jersey
Austin Sanitarium	Austin	Texas
Babies' Hospital	55th St. & Park Ave.	New York City
Baird & McGuire Inc.	Boston	Massachusetts
Baltimore Health Department	Baltimore	Maryland
Barnes, Mrs. H. H.	440 E. 26th St.	New York City
Barnett, Dr. S. R.	Madison	Wisconsin
Bartholomew, H. S.	Lansing	Michigan
Bates College	Lewiston	Maine
Battle Creek Sanitarium	Battle Creek	Michigan
Beechwood School	Jenkintown	Pennsylvania
Bellevue Training School	New York City	New York
Bellevue Medical College	New York City	New York
Beloit College	Beloit	Wisconsin
Bender Hygienic Laboratory	Albany	New York
Bennett, Mrs. J. F.	South Norwalk	Connecticut
Bennett Medical College	Chicago	Illinois

Bennett, Scott & Bibb	Austin	Texas
Bernstein, Dr. I.	64 W. 83d St.	New York City
Beth Israel Hospital	New York City	New York
Binghamton School	Memphis	Tennessee
Boards of Health	Wilmington	North Carolina
Block Chemical Co.	Chicago	Illinois
Borden's Milk Co.	New York	New York
Boston-Bio-Chemical Laboratory	Boston	Massachusetts
Boston Board of Health	Boston	Massachusetts
Boston City Hospital	Boston	Massachusetts
Boston Dispensary	Boston	Massachusetts
Boston State Hospital	Dorchester Center	Massachusetts
Bowdoin College	Brunswick	Maine
Bowman, Dr. Fred. B.	Buffalo	New York
Boys' High School	Brooklyn	New York
Breuer, Dr. Miles J.	Lincoln	Nebraska
Brockton Laboratory of Health & Water Departments	Brockton	Massachusetts
Braintree Health Department	Braintree	Massachusetts
Brooklyn Botanic Garden	Brooklyn	New York
Brown, Dr. Nammie V.	Johnson City	Tennessee
Brown University	Providence	Rhode Island
Bryn Mawr College	Bryn Mawr	Pennsylvania
Buchtel College	Akron	Ohio
Buena Vista College	Storm Lake	Iowa
Buffalo Department of Public Safety & Health	Buffalo	New York
Buffalo General Hospital	Buffalo	New York
Bureau of Animal Industry	Washington	District of Columbia
Bureau of Plant Industry	Washington	District of Columbia
Burroughs, Dr. Wm. B.	Baltimore	Maryland
Burroughs, Lillian C.	Baltimore	Maryland
Bussey Institute	Boston	Massachusetts
Butte Wesserman Laboratory	Butte	Montana
Cabot, Samuel, Inc.	Boston	Massachusetts
Camp, Vesta L.	Arnold's Park	Iowa
Canada Department of Agriculture	Ottawa	Ontario
Catholic University of America	Washington	District of Columbia
Central High School	Washington	District of Columbia
Central Testing Laboratory	New York	New York
Central Training School	Old Umtali	Rhodesia, Africa
Charleston Department of Health	Charleston	South Carolina
Charity Hospital	Cleveland	Ohio
Charity Hospital of Louisiana	New Orleans	Louisiana
Charlotte Sanatorium	Charlotte	North Carolina
Chicago Department of Health	Chicago	Illinois
Chicago, Sanitary District of	Chicago	Illinois
Chicago Hospital, College of Medicine	Chicago	Illinois
Chicago Veterinary College	Chicago	Illinois
Cincinnati Hospital	Cincinnati	Ohio
City Hospital, Department of Public Welfare	Cleveland	Ohio
Clark College	Worcester	Massachusetts
Clemson Agricultural College	Clemson College	South Carolina
Cleveland Board of Health	Cleveland	Ohio
Coe College	Cedar Rapids	Iowa
Colgate University	Hamilton	New York
College of Agriculture	Fayetteville	Arkansas
College of Jersey City	Jersey City	New Jersey
College of Pharmacy, Columbia University	New York	New York
Columbia University Department of Botany	New York	New York
Columbia University College of Physicians and Surgeons	New York	New York
Columbia Univ. Department of Sanitary Engineering	New York	New York
College of the City of New York	New York	New York
College of Emporia	Emporia	Kansas
College of Medicine	Syracuse	New York
College of Osteopathic Physicians and Surgeons	Los Angeles	California
Columbus Water Purification Works	Columbus	Ohio
Comparative Vaccine Laboratory	Brooklyn	New York
Conner, Dr. H. Milton	Topeka	Kansas

Connecticut Agricultural College	Storrs	Connecticut
Connecticut State Board of Health Laboratory	Middletown	Connecticut
Contagious Hospital	Ellis Island	New York
Cook County Hospital	Chicago	Illinois
Cornell University	Ithaca	New York
Cornell University Medical College	New York	New York
Crewe High School	Crewe	Virginia
Cropsey, M.	Onondaga	New York
Crouse Laboratories	El Paso	Texas
Crowe, H. Warren	Yelverton	Devon, Eng.
Cutter Laboratory	Berkeley	California
Catholic College of Oklahoma	Guthrie	Oklahoma
Carnegie Institute of Technology	Schenley Park	Pittsburgh, Pa.
Dalhousie University	Halifax	Nova Scotia
Dartmouth Medical School	Hanover	New Hampshire
Denver Normal School	Denver	Colorado
Department of Commerce	Woods Hole	Massachusetts
Department of Health	Bridgeport	Connecticut
Department of Health	Richmond	Virginia
Department of Public Health & Sanitation	Springfield	Ohio
Department of Streets & Public Improvements	Jersey City	New Jersey
De Witt Clinton High School	New York	New York
Digestive Ferments Co.	Detroit	Michigan
Dover High School	Dover	New Hampshire
Drake University	Des Moines	Iowa
Drumhill High School	Peekskill	New York
Du Bois, Dr. P. L.	New York	New York
Dublin Chemical & Bacteriological Laboratory	Dublin	New Hampshire
Dunbar High School	Washington	District of Columbia
D'Youville College	Buffalo	New York
East Orange Board of Health	East Orange	New Jersey
Eldredge, Dr. E. E.	Washington	District of Columbia
Eli-Lilly Co.	Indianapolis	Indiana
Elk Rapids Public Schools	Elk Rapids	Michigan
Elgin High School	Elgin	Illinois
Endley, Miss Juliette	Elyria	Ohio
Evanston Department of Health	Evanston	Illinois
E. I. du Pont de Nemours & Co.	Henry Clay P. O.	Delaware
Fairfield Dairy	Montclair	New Jersey
Fall River Health Department	Fall River	Massachusetts
Fairmont College	Wichita	Kansas
Farmington High School	Farmington	Maine
Federal Alumni Association	Buffalo	New York
Fischer, Dr. C. E. M.	Chicago	Illinois
Food Research Laboratory	Philadelphia	Pennsylvania
Fordham University	New York	New York
Fort Slocum, U. S. A. Hospital	Fort Slocum	New York
Fralick, Dr. W.	New York	New York
Francis, Dr. F. D.	Chicago	Illinois
Franklin & Marshall College	Lancaster	Pennsylvania
Friedlander, Dr. Alfred	Cincinnati	Ohio
Friends University	Wichita	Kansas
Federal Laboratory	San Francisco	California
General Electric Co. Research Laboratory	Schenectady	New York
George Washington University	Washington	District of Columbia
Georgia Agricultural Experiment Station	Experiment	Georgia
Gibbs Preserving Company	Baltimore	Maryland
Gilbert School	Winsted	Connecticut
Gitlow, Samuel	New York	New York
Gibson Canning Company	Gibson City	Illinois
Goucher College	Baltimore	Maryland
Grace Hospital	Detroit	Michigan
Grand Rapids Board of Public Works	Grand Rapids	Michigan
Great Bear Spring Water Company	Brooklyn	New York

Greeley Laboratories, Inc.	Boston	Massachusetts
Grinnell College	Grinnell	Iowa
Grand Rapids Veterinary College	Grand Rapids	Michigan
Hamilton College	Clinton	New York
Harriman Research Laboratory	New York	New York
Harris, Dr. Cara L.	Collierville	Tennessee
Harrison, Miss Adele H.	Tuscaloosa	Alabama
Harsch, Dr. E. M.	Champaign	Illinois
Harvard University, School of Engineering	Cambridge	Massachusetts
Hastings, H. T.	Toledo	Ohio
Hathaway-Brown School	Cleveland	Ohio
Haverford College	Haverford	Pennsylvania
Hayden, Dr. G.	Westford	Otsego Co., N. Y.
Health Department Laboratory	Columbus	Ohio
Health Department	Highland Park	Michigan
Health Officer's Department	Roseband	New York
Hepburn, Dr. Joseph S.	Philadelphia	Pennsylvania
Hercules Powder Company	San Diego	California
Hill Laboratory	Buffalo	New York
Hoagland Laboratory	Brooklyn	New York
Harvard Medical School	Boston	Massachusetts
Hirschfelder, Dr. J. O.	San Francisco	California
Howard University School of Medicine	Washington	District of Columbia
Howard Medical School, Department of Bacteriology	Boston	Massachusetts
Hubbard, Dr. Osmon H.	Keene	New Hampshire
Hull, Miss L.	Boston	Massachusetts
Hunter College	New York	New York
Hygienic Laboratory	Washington	District of Columbia
Idaho Technical Institute	Pocatello	Idaho
Illinois Board Live Stock Commission	Springfield	Illinois
Illinois Wesleyan University	Bloomington	Illinois
Indiana University School of Medicine	Indianapolis	Indiana
Indianapolis Water Company	Indianapolis	Indiana
Industrial Chemical Institute	Milwaukee	Wisconsin
Industrial School of New London	New London	Connecticut
Institute of Public Health	London	Ontario
Interborough Rapid Transit Company	New York	New York
International Laboratories	New York	New York
Iowa State Board of Health	Iowa City	Iowa
Iowa State Teachers College	Cedar Falls	Iowa
Isthmian Canal Commission Health Department	Ancon	Canal Zone
Iowa State College	Ames	Iowa
Johnson & Johnson	New Brunswick	New Jersey
Johns Hopkins Hospital	Baltimore	Maryland
Johns Hopkins University	Baltimore	Maryland
Jordan, George	Boston	Massachusetts
Kansas City Veterinary College	Kansas City	Missouri
Kansas State Agricultural College	Manhattan	Kansas
Kansas State Normal School	Emporia	Kansas
Kansas Wesleyan University	Salina	Kansas
Keiser and Boasberg	East Windsor Hill	Connecticut
Keith, Simon C.	Boston	Massachusetts
Kemper Hall	Kenosha	Wisconsin
Kentucky Agricultural Experiment Station, State Univ.	Lexington	Kentucky
Kentucky State Board of Health	Bowling Green	Kentucky
Kirtland Pumping Station	Cleveland	Ohio
Klein, Dr. F.	New York	New York
Krals Bakteriologisches Museum	Vienna	Austria
Kramer, S. D.	New York	New York
The Kolynos Company	New Haven	Connecticut
Lafayette College	Easton	Pennsylvania
Lake Erie College	Painesville	Ohio
Laval University	Montreal	Canada

Lederle Laboratories	New York	New York
Lederle Laboratories	Pearl River	New York
Lehane, Dr. T. D.	New York	New York
Lehigh University	South Bethlehem	Pennsylvania
Leland Stanford University	Stanford University	California
Lucama High School	Lucama	North Carolina
Lenox College	Hopkinton	Iowa
Lemon, Dr. A. B.	Buffalo	New York
Leopold, Dr. R. S.	Germantown	Philadelphia, Pa.
Lewis Institute	Chicago	Illinois
Leonard Medical School	Raleigh	North Carolina
Libby, McNeill & Libby Stockyards	Chicago	Illinois
Lincoln Memorial University	Knoxville	Tennessee
Local Board of Health	Ottawa	Canada
Lombard College	Galesburg	Illinois
Long, Dr. E. R.	Seattle	Washington
Louisiana State Board of Health	New Orleans	Louisiana
Louisiana State University	Baton Rouge	Louisiana
Lowdermilk, Dr. R. Claude	Galena	Kansas
Lyndon School of Agriculture	Lyndon Centre	Vermont
Lewisburg Laboratory	Lewisburg	West Virginia

Macdonald College	Quebec	Canada
Macdonald, Dr. E. L.	Waterbury	Connecticut
Maclauren, Dr. N. T.	Toronto	Ontario
Marquette University	Milwaukee	Wisconsin
McGill University	Montreal	Quebec
McLester, Dr. James S.	Birmingham	Alabama
Manhattan Eye, Ear & Throat Hospital	New York	New York
Manitoba Agricultural College	Winnipeg	Manitoba
Manitoba Medical College	Winnipeg	Manitoba
Margaret Morrison Carnegie School	Pittsburgh	Pennsylvania
Marietta College	Marietta	Ohio
Marietta High School	Marietta	Ohio
Marine Biological Laboratory	Woods Hole	Massachusetts
Massachusetts Agricultural College	Amherst	Massachusetts
Massachusetts Homœopathic Hospital	Boston	Massachusetts
Massachusetts Institute of Technology	Boston	Massachusetts
Maryland State Board of Health	Baltimore	Maryland
Massachusetts State Game and Fish Commission	Boston	Massachusetts
Massachusetts State Hospital	Boston	Massachusetts
Mayo Clinic	Rochester	Minnesota
Medico-Chirurgical College of Philadelphia	Philadelphia	Pennsylvania
Mellon Institute of Industrial Research	Pittsburgh	Pennsylvania
Memorial Institute for Infectious Diseases	Chicago	Illinois
Metropolitan Hospital	New York	New York
Memorial Hospital	Worcester	Massachusetts
Miami University	Oxford	Ohio
Michigan Agricultural College	East Lansing	Michigan
Miller, Dr. Theodore	New York	New York
Minnesota State Board of Health	Minneapolis	Minnesota
Mississippi Agricultural Experiment Station	Agricultural College	Mississippi
Mississippi Industrial Institute and College	Columbus	Mississippi
Missouri Botanical Garden	St. Louis	Missouri
Missouri State Fruit Experiment Station	Mountain Grove	Missouri
Missouri State Normal School	Cape Girardeau	Missouri
Missouri State Poultry Experiment Station	Mountain Grove	Missouri
Montana State College of Agriculture	Bozeman	Montana
Montclair Board of Health	Montclair	New Jersey
Montefiore Home	New York	New York
Morris & Company	Chicago	Illinois
Morris High School	New York	New York
Moore & LeGivin, Doctors	Wilmington	North Carolina
Morse, Dr. R. A.	East Providence	Rhode Island
Mt. Holyoke College	South Hadley	Massachusetts
Mt. Prospect Laboratory	Brooklyn	New York
Mt. Sinai Pathological Laboratory	New York	New York
Muhlenberg College	Allentown	Pennsylvania

Mulford Laboratory	Glen Olden	Pennsylvania
Muncie National Institute	Muncie	Indiana
Municipal University of Akron	Akron	Ohio
Murray Hill Laboratory	New York	New York
Muskingum College	New Concord	Ohio
Mulsow, Dr. F. W.	Chicago	Illinois
Maryland State College Agricultural Experiment Sta.	College Park	Maryland
Nathan & Miriam Barnett Memorial Hospital Assn.	Paterson	New Jersey
National Canners' Association	Washington	District of Columbia
National Dairy and Soil Bacteria Company	Sharon Springs	New York
National Jewish Hospital for Consumptives	Denver	Colorado
Neiffer, Mr. G. W.	Philadelphia	Pennsylvania
Nebraska State Normal School	Wayne	Nebraska
New Castle High School	New Castle	Pennsylvania
New Hampshire Agricultural Experiment Station	Durham	New Hampshire
New Haven Hospital	New Haven	Connecticut
New Jersey Agricultural Experiment Station	New Brunswick	New Jersey
New Jersey College of Pharmacy	New Brunswick	New Jersey
New Jersey State Normal School	Trenton	New Jersey
Newlands, Dr. James A.	Hartford	Connecticut
New London Vocational School	New London	Connecticut
New York Agricultural Experiment Station	Geneva	New York
New York City Health Department	New York	New York
New York City Hospital	Blackwell's Island	New York
New York Homœopathic Medical College and Flower Hospital	New York	New York
New York Hospital	New York	New York
New York Medical College for Women	New York	New York
New York Post-graduate Medical School	New York	New York
New York State Board of Health	Albany	New York
New York State Hygienic Laboratory	Albany	New York
New York State College of Agriculture and Agricultural Experiment Station, Cornell University	Ithaca	New York
New York State Sanitation Commission	New York	New York
New York State Veterinary College	Ithaca	New York
Newport Water Works	Newport	Rhode Island
North Carolina Agricultural Experiment Station	Raleigh	North Carolina
North Carolina College of Agr. and Mechanic Arts	West Raleigh	North Carolina
North Dakota Agricultural Experiment Station	Agricultural Experiment	North Dakota
Northern Normal and Industrial School	Aberdeen	South Dakota
Northwestern University Medical School	Chicago	Illinois
Norwich Bacteriological Laboratory	Norwich	Connecticut
Norwich Sanatorium	Norwich	Connecticut
Oakwood High School	Oakwood	Wisconsin
Ohio Agricultural Experiment Station	Wooster	Ohio
Ohio State Board of Health	Columbus	Ohio
Ohio State University	Columbus	Ohio
Ohio University	Athens	Ohio
Oklahoma Agricultural Experiment Station	Stillwater	Oklahoma
Oklahoma State Normal School	Alva	Oklahoma
Ontario Agricultural College	Guelph	Ontario
Oppenheimer, Dr. Seymour	New York	New York
Oregon Agricultural College	Corvallis	Oregon
Orange Memorial Hospital	Orange	New Jersey
Oskaloosa Board of Health	Oskaloosa	Iowa
Ossining Hospital	Ossining	New York
Ottawa University	Ottawa	Kansas
Ovington, Earle L.	Newton Highlands	Massachusetts
Packer Institute	Brooklyn	New York
Page, Dr. Calvin Gates	Boston	Massachusetts
Park School	Baltimore	Maryland
Parke, Davis & Company	Detroit	Michigan
Parker House	Boston	Massachusetts
Parsons College	Fairfield	Iowa
Paschall, Dr. Benj. S.	Seattle	Washington

Pathological Laboratory	Phoenix	Arizona
Penn College	Oskaloosa	Iowa
Pennsylvania College of Medicine for Women	Philadelphia	Pennsylvania
Pennsylvania College	Gettysburg	Pennsylvania
Pennsylvania Livestock Sanitary Board Laboratory	Philadelphia	Pennsylvania
People's Institute	Morrisville	Vermont
Pennsylvania State College	State College	Pennsylvania
Peter Bent Brigham Hospital	Boston	Massachusetts
Pfau, Dr. C. L.	Louisville	Kentucky
Philadelphia Department of Health	Philadelphia	Pennsylvania
Philadelphia General Hospital	Philadelphia	Pennsylvania
Philadelphia Hospital	Philadelphia	Pennsylvania
Phillips Chemical Company, The Chas. H.	New York	New York
Physicians' Supply Company	New York	New York
Portland, Maine, Children's Hospital	Portland	Maine
Port Morris High School	Port Morris	New York
Pratt Institute, School of Household Science	Brooklyn	New York
Presbyterian Hospital, The	New York	New York
Price College	Oskaloosa	Iowa
Princeton Board of Health	Princeton	New Jersey
Princeton University	Princeton	New Jersey
Printing Pressmen and Assistants' Union Home	Pressmen's Home	Tennessee
Providence City Hospital	Providence	Rhode Island
Provincial Board of Health	Toronto	Ontario
Purdue Agriculturist	W. La Fayette	Indiana
Purdue University Agricultural Experiment Station	Lafayette	Indiana
Purdue University	Lafayette	Indiana
Putnam, Prof. John J., University of Idaho	Moscow	Idaho
Queens University	Kingston	Ontario
Radium Chemical Company	Pittsburgh	Pennsylvania
Rector, Frank L.	Brooklyn	New York
Michael Reese Hospital	Chicago	Illinois
Reid, Murdoch & Company	Hammond	Indiana
Rensselaer Polytechnic Institute	Troy	New York
Rhode Island Agricultural Experiment Station	Kingston	Rhode Island
Rhode Island State Board of Health	Providence	Rhode Island
Ripon College	Ripon	Wisconsin
Robinson, Dr. Z.	New Haven	Connecticut
Rochester Health Department	Rochester	New York
Rockefeller Institute	New York	New York
Rock Hill College	Ellicott City	Maryland
Roosevelt Hospital	New York	New York
Royal Victoria Hospital	Montreal	Quebec
Royal Serum Company, The	Kansas City	Missouri
Ruppert's Brewery	New York	New York
Rutland State Sanatorium	Rutland	Massachusetts
Saint Francis Hospital	San Francisco	California
St. John's College	Annapolis	Maryland
St. Lawrence State Hospital	Ogdensburg	New York
St. Louis University School of Medicine	St. Louis	Missouri
St. Luke's Home for Tuberculosis	Phoenix	Arizona
St. Luke's Hospital	Chicago	Illinois
St. Bartholomew's Hospital	London E. C. I.	England
St. Petersburg High School	St. Petersburg	Florida
Samaritan Hospital	Troy	New York
Samuel, Mrs. Bessie R.	Guntersville	Alabama
Sautelle, Drs. W. De and A. Smith	Knoxville	Tennessee
Schirmer, Dr. Emilee C.	Jersey City	New Jersey
St. Luke's Hospital Association	Jacksonville	Florida
St. Luke's Hospital	New York	New York
Schorer, Dr. E. H.	Kansas City	Missouri
Shaw University	Raleigh	North Carolina
Sheffield Scientific School	New Haven	Connecticut
Shelton Sanatorium	Shelton	Connecticut
Sherwood, C. M.	Potash	California

Simmons College	Boston	Massachusetts
Simonds, Dr. T. P.	Boston	Massachusetts
Simpson College	Indianola	Iowa
Skin and Cancer Hospital	New York	New York
Smith, Dr. E. E.	New York	New York
Smith, Dr. T. Emory	University Park	Iowa
Smith, Louberta J.	Chivington	Colorado
Smith College	Northampton	Massachusetts
South Carolina Medical College	Charleston	South Carolina
South Dakota State College	Brookings	South Dakota
South Georgia State Normal School	Valdosta	Georgia
Southwest Texas State Normal School	San Marcos	Texas
Sophian, Dr. A.	Oklahoma City	Oklahoma
Sprague Memorial Institute	Chicago	Illinois
Springfield Water Department	Westfield	Massachusetts
Squibb & Sons, Messrs. E. R.	New Brunswick	New Jersey
Stanford Medical College	San Francisco	California
State Board of Health	Jacksonville and Tallahassee	Florida
State Medical College	Galveston	Texas
State Normal College	Greensboro	North Carolina
State Normal School	Framingham	Massachusetts
State Normal School	Athens	Georgia
State Normal School	Spearfish	South Dakota
Stebbins, Dr. J. H.	New York	New York
Stevenson, Miss Helen C.	Columbia University	New York
Stevenson, Dr. Hugh A.	London	Ontario
Stewart, Miss F. Constance	Lansing	Michigan
Storrs Agricultural Experiment Station	Storrs	Connecticut
Sugar Experiment Station	New Orleans	Louisiana
Swarthmore College	Swarthmore	Pennsylvania
Syracuse City Hygienic Laboratory	Syracuse	New York
Syracuse Department of Public Safety	Syracuse	New York

Tacloban	Leyte	Philippine Islands
Tasty Baking Company	Philadelphia	Pennsylvania
Teachers' College	New York	New York
Teh, Dr. Wm. Lien	Shanghai	China
Tempe Normal School of Arizona	Tempe	Arizona
Thomas Normal Training School	Detroit	Michigan
Tiemann, Geo. & Company	New York	New York
Toronto Board of Health	Toronto	Ontario
Treasury Dept., Office of Comm. of Internal Revenue	Washington	District of Columbia
Trenton High School	Trenton	New Jersey
Trinity College	Hartford	Connecticut
Tufts College	Tufts College	Massachusetts
Tulane University	New Orleans	Louisiana
Tuxedo Laboratory	Tuxedo Park	New York

Ultra Violet Ray Company	South Norwalk	Connecticut
Union Hospital	Fall River	Massachusetts
University of Alberta	Edmonton	Alberta
University of Arizona	Tucson	Arizona
University of California	Berkeley	California
University of Southern California	Los Angeles	California
University of Chicago	Chicago	Illinois
University of Cincinnati	Cincinnati	Ohio
University of Colorado	Boulder	Colorado
University of Florida	Gainesville	Florida
University of Illinois	Urbana	Illinois
University of Illinois, College of Medicine	Chicago	Illinois
University of Illinois, State Water Supply	Urbana	Illinois
University of Iowa	Iowa City	Iowa
University of Kansas	Lawrence	Kansas
University of Kansas, Medical School	Rosedale	Kansas
University of Montana	Bozeman	Montana
University of Michigan	Ann Arbor	Michigan
University of Minnesota	Minneapolis	Minnesota

University of Mississippi	University	Mississippi
University of Missouri	Columbia	Missouri
University of Nebraska, College of Medicine	Omaha	Nebraska
University of Nebraska	Lincoln	Nebraska
University of Nevada	Reno	Nevada
University of North Carolina	Chapel Hill	North Carolina
University of North Dakota	Grand Forks	North Dakota
University of Oregon	Portland	Oregon
University of Pennsylvania	Philadelphia	Pennsylvania
University of Pennsylvania, Pepper Laboratory	Philadelphia	Pennsylvania
University of Pittsburgh	Pittsburgh	Pennsylvania
University of Rochester	Rochester	New York
University of Saskatchewan	Saskatoon	Saskatchewan
University of the South	Sewanee	Tennessee
University of South Dakota	Vermillion	South Dakota
University of Syracuse	Syracuse	New York
University of Tennessee	Memphis	Tennessee
University of Texas	Galveston	Texas
University of Toronto	Toronto	Ontario
University of Utah	Salt Lake City	Utah
University of Vermont	Burlington	Vermont
University of Virginia	University	Virginia
University of Washington	Seattle	Washington
University of West Virginia	Morgantown	West Virginia
University of Wisconsin	Madison	Wisconsin
University of Wyoming	Laramie	Wyoming
United States Army	Manila	Philippine Islands
United States Dept. of Agriculture, Bureau of Chemistry	Washington	District of Columbia
United States Dept. of Agriculture	New York	New York
United States Dept. of Agriculture, Bureau of Markets	Agricultural College	North Dakota
United States Marine Hospital	Cincinnati	Ohio
United States Public Health Service	Cincinnati	Ohio
United States Public Health Service	Ellis Island	New York
United States Public Health Service, Treasury Dept.	Leavenworth	Kentucky
United States Oyster Laboratory	South Norwalk	Connecticut
Upjohn Company	Kalamazoo	Michigan
Upper Iowa University	Fayette	Iowa
Utah Agricultural College	Logan	Utah
Vanderbilt University	Nashville	Tennessee
Victoria General Hospital	Halifax	Nova Scotia
Virginia Agricultural Experiment Station	Blacksburg	Virginia
Virginia Medical College	Richmond	Virginia
Virginia State Board of Health	Richmond	Virginia
Vassar College	Poughkeepsie	New York
Vermont Agricultural Experiment Station	Burlington	Vermont
Wabash College	Crawfordsville	Indiana
Wadleigh High School	New York	New York
Wake Forest School of Medicine	Wake Forest	North Carolina
Walter, Dr. F.	Perry	Montana
Walker Laboratories	Woolworth Bldg.	New York City
Washburn College	Topeka	Kansas
Washington Filtration Plant	Washington	District of Columbia
Washington State College	Pullman	Washington
Washington Medical School	St. Louis	Missouri
Waterloo Public Schools	Waterloo	Iowa
Water Softening and Purification Works	Columbus	Ohio
Welcome Physiological Research Laboratory	London S. E.	England
Wellington High School	Wellington	Ohio
Wellesley College	Wellesley	Massachusetts
Wentz, Dr. John B.	Spearfish	South Dakota
West Virginia Pulp & Paper Company	New York	New York
West Pennsylvania Hospital	Pittsburgh	Pennsylvania
Western Reserve University	Cleveland	Ohio
White, Dr. Benjamin	Otisville	New York
Wilkes-Barre High School	Wilkes-Barre	Pennsylvania
Williams, Mrs. C. B.	Ames	Iowa

William and Mary College	Williamsburg	Virginia
Wilson, Dr. C. Stuart	Tacoma	Washington
Winthrop College	Rock Hill	South California
Women's College	Salem	Virginia
Yale Medical School	New Haven	Connecticut
Yonkers Department of Public Safety	Yonkers	New York
Yonkers High School	Yonkers	New York
Y. W. C. A.	Norfolk	Virginia
Gabriel De Zequeira y Ribera	Havana	Cuba

SUMMARY

PUBLIC SCHOOLS	502
PAROCHIAL SCHOOLS	15
PRIVATE SCHOOLS	54
COLLEGES AND UNIVERSITIES	150
MEDICAL SCHOOLS	33
SCHOOLS OF ART AND DESIGN	7
LIBRARIES	12
MISCELLANEOUS EDUCATIONAL ORGANIZATIONS AND INSTITUTIONS	386
	1,159

EDUCATIONAL EXTENSION WORK
OF
THE AMERICAN MUSEUM OF NATURAL HISTORY
NEW YORK CITY
1917
PUBLIC SCHOOLS SUPPLIED BY THE MUSEUM WITH NATURE STUDY COLLECTIONS OR LECTURES IN 1917
Public Schools
High Schools
Corporate Schools
AMERICAN MUSEUM OF NATURAL HISTORY
BOROUGH OF THE BRONX
BOROUGH OF MANHATTAN
BOROUGH OF QUEENS
BOROUGH OF BROOKLYN
BOROUGH OF RICHMOND
HUDSON RIVER
EAST RIVER
NORTH RIVER
HARLEM RIVER
JERSEY CITY
UPPER NEW YORK BAY
Whitestone
Bayside
College Point
Flushing
North Beach
Weehawken
Hoboken
Canarsie
Bergen Beach
St George
Tompkinsville
Stapleton
South Beach
Richmond
Graves End Bay
Coney Island
Rockaway Beach
Jamaica Bay
Flushing Bay
Bowery Bay
Central Park
Prospect Park
Pelham Bay Park
Van Cortlandt Park
Ellis Island
Governor's Island
Liberty Island
STATISTICS RELATING TO MUSEUM EXTENSION WORK
1917
Circulating Nature Study Collections:
Number of Collections in Use 712
Number of Schools of Greater New York Supplied 446
Number of Pupils Studying the Collections 1,075,076
Lectures to Public School Children:
Number of Lectures Given 103
Number of Schools Represented 157
Total Attendance 79,323
Scale of Miles
TRANSPORTATION LINES
Interborough Rapid Transit (Subway System)
Hudson & Manhattan R. R. Tunnels
Belmont Tunnel
Elevated Railroads
Street Car Lines
Steam Railroads
Steam Railroad Tunnels
Ferries
Borough Boundaries
Parks
Prepared by the Department of Public Education of The American Museum of Natural History, 1918

LIST OF PUBLICATIONS ON THE EDUCATIONAL WORK OF THE MUSEUM

PUBLIC EDUCATION NUMBER, *THE AMERICAN MUSEUM JOURNAL;* Volume XI, Number 7; November, 1911.

THE EDUCATIONAL WORK OF THE AMERICAN MUSEUM OF NATURAL HISTORY; Extracts from the Fifth Annual Report of President Henry Fairfield Osborn to the Board of Trustees for the year 1911; 1912.

THE MUSEUM AND NATURE STUDY IN THE PUBLIC SCHOOLS, by Henry Fairfield Osborn, President of the Board of Trustees, and George H. Sherwood, Curator of the Department of Public Education. *Miscellaneous Publications of The American Museum of Natural History,* No. 3; 1913.

THE PUBLIC SCHOOLS AND THE AMERICAN MUSEUM OF NATURAL HISTORY; History and Present Status of Museum Instruction and the Proposed Extension to the Schools of Greater New York in the Years 1914 and 1915; Prepared by George H. Sherwood, Curator, Department of Public Education. *Miscellaneous Publications of The American Museum of Natural History,* No. 5; June 23, 1914. (Out of print.)

TEACHERS' HANDBOOK to the Exhibitions and Collections in The American Museum of Natural History—Part 1, THE NORTH AMERICAN INDIAN COLLECTIONS, Their Use in Elementary English, History and Geography and in High School History and Economics. By Ann E. Thomas, Assistant, Department of Public Education; 1916.

MUSEUM INSTRUCTION FOR THE BLIND. By Ann E. Thomas, Assistant in the Department of Education, American Museum of Natural History. Reprinted from the PROCEEDINGS OF THE AMERICAN ASSOCIATION OF MUSEUMS, Vol. XI, 1917.

FREE EDUCATION BY THE AMERICAN MUSEUM OF NATURAL HISTORY IN PUBLIC SCHOOLS AND COLLEGES, by George H. Sherwood, Curator, Department of Public Instruction, with Foreword by President Henry Fairfield Osborn. *Miscellaneous Publications of The American Museum of Natural History,* No. 10, 1918.

ANNUAL REPORTS OF THE PRESIDENT 1905-1919

Apply to CURATOR, DEPARTMENT OF PUBLIC EDUCATION,
THE AMERICAN MUSEUM OF NATURAL HISTORY,
77TH STREET AND CENTRAL PARK WEST,
NEW YORK CITY.

FROM THE CHARTER OF 1869

"For the purpose of establishing and maintaining in said city a Museum and Library of Natural History; of encouraging and developing the study of Natural Science; of advancing the general knowledge of kindred subjects, and to that end of furnishing popular instruction."

FROM LETTER OF ANDREW H. GREEN, COMPTROLLER OF THE CENTRAL PARK, 1869

The Commissioners appreciating the views you so kindly express, entirely concur in the desirability of the establishment of a Museum in the Park, that shall become an aid in the Great Educational System of the city, concentrate and develop Scientific efforts in all departments of Natural History, and at the same time be an instructive and acceptable resort for the people of the city, and for the throng of strangers that visit it.

FROM AGREEMENT BETWEEN THE CITY OF NEW YORK AND THE AMERICAN MUSEUM OF NATURAL HISTORY, 1878

"But all professors and teachers of the public schools of the City of New York, or other institutions of learning in said city, in which instruction is given free of charge, shall be admitted to all the advantages afforded by the said party of the second part, through its museum, library, apparatus, and collections, or otherwise, for study, research and investigation, free of any charge therefor, and to the same extent and on the same terms and conditions as any other persons are admitted to such advantages, as aforesaid."

SIXTH ANNUAL REPORT

OF THE

PENSION BOARD

OF

THE AMERICAN MUSEUM OF NATURAL HISTORY

FOR THE YEAR 1918

MISCELLANEOUS PUBLICATIONS OF
THE AMERICAN MUSEUM OF NATURAL HISTORY NO 11

5.06(74.7)M1

NEW YORK
February 1, 1919

SIXTH ANNUAL REPORT

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NEW YORK
February 1, 1919

OFFICERS AND MEMBERS OF THE PENSION BOARD

1918

Chairman
FELIX M. WARBURG

Vice-Chairman
RALPH W. TOWER

Treasurer
HENRY P. DAVISON

Secretary
GEORGE N. PINDAR

TRUSTEE MEMBERS

ADRIAN ISELIN
WALTER B. JAMES
PERCY R. PYNE
FELIX M. WARBURG

EMPLOYEE MEMBERS

HARRY F. BEERS
RALPH W. TOWER
GEORGE N. PINDAR

Bursar
FREDERICK H. SMYTH

Counsel
LEWIS L. DELAFIELD

Consulting Actuary
S. HERBERT WOLFE

Medical Examiners
GEORGE M. MACKENZIE, M.D.
WALTER P. ANDERTON, M.D.

To the President and Trustees of The American Museum of Natural History and to the Subscribers to the Fund:

In accordance with the Rules and Regulations, I have the honor to transmit to you herewith the Sixth Annual Report of the activities of the Pension Board and of its financial operations for the fiscal year ending December 31, 1918.

FELIX M. WARBURG

Chairman

February 1, 1919

With the entrance of the United States into the war, came new and extraordinary liabilities for the Pension Fund. As a result it has been found advisable during the year 1918 to guard against an extension of the membership with the consequent liabilities which such extension entails. For this reason, the Pension Fund has fewer subscribers at the end of 1918 than at the beginning of the year. The diminished membership, however, indicates no decrease in the prosperity of the Fund, which promises expansion at the usual rate with the return of pre-war conditions.

The report of membership for 1918 is as follows:

Number of Subscribers, January 1, 1918		256
New Subscribers during the year 1918		18
Reinstatements made during the year 1918		0
		274
Resignations and Dismissals	22	
Retirements	0	
Deaths	3	25
Number of Subscribers, December 31, 1918		249

Consistent with the good record which they established for themselves at the time of the first Liberty Loans, in 1917, the employees of the Museum have subscribed generously to the succeeding loans. 217 employees subscribed to the Third Loan (April–May), totalling $20,150. 175 employees subscribed to the Fourth Loan (October), in an amount of $20,900. As in the case of the previous loans, the generosity of one of the members of the Pension Board made it possible for the employees to take out their bonds on a serial payment basis. It is due to this liberal provision that the employees were enabled to contribute so largely to the Liberty Loans.

In accordance with its past policy, the Pension Board has given aid, during 1918, to such deserving employees as were in need of medical attention or hospital treatment and were themselves unable to make the necessary provision. These employees have in such cases been carefully examined and advised by Dr. Anderton, and have been given help in obtaining the needed medical or hospital treatment. Wherever possible, a choice of hospitals has been given. Seven employees have received such aid during the past year, the majority obtaining relief as a result.

The matter of securing endowed beds for the use of Museum employees was taken up again in 1918 by the Board, but it was not found possible to conclude a satisfactory arrangement.

In order to keep the Pension Fund intact, the Trustees of the Museum, at a meeting held early in 1918, agreed to reimburse the Fund for such amounts as it might be necessary to pay on account of casualties occurring among the subscribing members in the national service, to a total amount not exceeding $5,000. As estimate showed that $5,000 was the approximate maximum liability of the Fund on account of war losses, the provision was a guaranty of the integrity of the Pension Fund. It served also as a further evidence of the liberality and interest of the Trustees in affairs touching the welfare of Pension members and their families.

The Pension Board, having in mind the health of subscribing members of the Fund and of other employees, have suggested to the Trustees of the corporation the desirability of retaining a physician, whose duty it should be to make free periodical examinations of employees, with a view to the prevention and correction of ailments. While such an arrangement would involve considerable expense, it is anticipated that the benefits to and the increased efficiency of the employees would be an adequate return on the investment.

As a result of the greatly increased living expenses and the high wage levels prevailing in industrial occupations, some of the subscribing employees in 1918 requested leave of absence for the period of the war, with a view to earning more money. While the Museum authorities would have welcomed the opportunity of assisting these employees in any legitimate way, they felt that to permit such leave of absence would be unjust, as the members, although absent from their work in the Museum, would none the less remain liabilities against the Fund, and with undoubtedly increased risk. This would amount to a discrimination against the greater number of subscribers. It was therefore found necessary to reject such applications for leave of absence, and to notify the members of the Fund that only military or naval service, compliance with the rulings of the Draft Board, illness, or such other reasons as the authorities should find just and proper, would constitute valid basis for leave of absence.

ACKNOWLEDGMENTS

For the use of their endowed beds in the Presbyterian Hospital, the Pension Fund is grateful to Mr. Horace F. Hutchinson and Mr. Richard B. Kelly.

For coöperation in securing free treatment at the Presbyterian Hospital for an employee in need, the Board is indebted to Mr. L. E. Belmont.

Col. S. H. Wolfe has generously extended to the Pension Board the privilege of sending employees to the number of five in one year to use his endowed bed in Mt. Sinai Hospital.

The Pension Board is grateful to Dr. Walter P. Anderton for his unremitting care and patience in the examination of members and applicants, and for his kind coöperation in securing the necessary treatment and facilities for employees in need of such assistance.

To Counsel Lewis L. Delafield the Pension Board owes thanks for advice and suggestions graciously offered during the past year.

The members of the Pension Fund are proud of their Honor Roll, to which a number of names have been added since the last Report. We have reason to be deeply thankful that, while a number of men have been wounded, only one loss of life has occurred among our men in service.

HONOR ROLL

Harold E. Anthony
Felix A. Barbarito
James P. Chapin
Frank M. Chapman
Charles A. Connolly*
Joseph F. Connolly
Henry E. Crampton
Laurence A. Ferri
John J. Finn
Edward J. Foyles
Charles H. Harriman
John Harte
James J. Healy
Prentice B. Hill
Thomas G. Hull
Henry L. Hundertpfund
Albert J. Kelly
Kay C. Lenskjold
George M. Mackenzie
Daniel J. McGarty
Joseph S. McGarty
Bruno Menzer
Edwin C. Meyenberg
Leo E. Miller
Barrington Moore
John F. O'Neill

*Charles A. Connolly was reported by the War Department as killed in action on July 28, 1918, at Chateau-Thierry.

James A. Provenzale
Thomas E. Quinn
Henry H. Ramshaw
Charles H. Rogers
Oscar M. Shine
Robert J. Seibert
Carl C. Sorensen
Louis R. Sullivan
Frank S. Vitolo
C-E. A. Winslow

S. Herbert Wolfe

Deceased Subscribers

It is with deep regret that we record the deaths of the following members during the year 1918:

George Chamberlain

George Chamberlain was born on January 21, 1879, in Cambridge, England. Entering the service of the Museum in 1909 as an attendant, his capabilities were early recognized, and he was soon transferred to the Library, in which department he labored faithfully and with competence up to the time of his last illness. Possessed of an unusually happy disposition, never failing courtesy and genial presence, his untimely death caused a deep sense of personal loss to his associates in the institution. He died on October 29, 1918, after a long and painful illness during which he displayed remarkable fortitude and cheerfulness.

Charles A. Connolly

Charles A. Connolly was born on February 9, 1893, in New York City. In 1911, he came to the Museum and was assigned to the Custodians' Force. In 1914, he joined the famous 69th Regiment and served with his company, as sergeant, for nine months in 1917 on the Mexican border. Mustered into the Federal Service in 1918, he was among the first to be sent abroad. On July 28, during the famous drive at Chateau-Thierry, he made the supreme sacrifice for his country and for the liberty and integrity of the nations of the earth. A fitting monument to his memory will long endure in the form of a grove of fruit-trees bearing his name, which this institution has

caused to be planted where he fell. His former associates in the Museum are reminded of their loss by the golden star on the Museum's service flag. As a soldier, his courage, tactfulness and care for those under him have been heartily attested by his comrades. As a loving and considerate son, a genial companion, an efficient and conscientious worker, and above all as a thoroughly patriotic American young man, he will always be affectionately remembered.

Daniel Doherty

Daniel Doherty was born on June 15, 1856, in Ireland. For about eighteen years he served this institution efficiently and faithfully. Intensely patriotic and loyal to the country of his adoption, he was equally ardent and firm in his friendships. Always welcome among groups of workers in the Museum, his unexpected death came as a distinct shock. Pleasant memories of this agreeable and trustworthy employee will always remain in the hearts of those with whom he associated. He died on June 27, 1918.

RETIREMENTS

Name	Former Position	Date Effective	Period of Service
John T. Davis	Carpenter	March 1, 1917	15 yrs.
John F. Jordan	Attendant	April 1, 1917	15 yrs.

Financial Statement

1918

INVESTED FUNDS

	Par Value	Book Value
Endowment Fund	$1,258 37	$1,140 39
Investment Fund	96,741 63	88,648 36
Total	$98,000 00	$89,788 75

STATEMENT OF INVESTED FUNDS

Par Value	Securities	Due	Rate of Int.	Interest Payable	Ann. Int.	Date Acquired	Book Value
$5,000 00	Union Pacific Railroad Company, 1st Lien & Refunding Mortgage Bonds	2008	4%	Mar.–Sept.	$200 00	Feb. 26, 1914	$4,687 50
5,000 00	Chicago & Northwestern Railway Company, General Mortgage Bonds	1987	4%	May–Nov.	200 00	July 7, 1914	4,725 00
5,000 00	Pennsylvania Railroad Company, General Mortgage Bonds	1965	4½%	June–Dec.	225 00	June 4, 1915	4,887 50
5,000 00	Baltimore & Ohio Railroad Co., Refunding & General Mortgage Bonds	1995	5%	June–Dec.	250 00	Dec. 29, 1915	5,050 00
5,000 00	Chicago, Milwaukee, St. Paul Railway Company, General & Refunding Mortgage Bonds	2014	4½%	Apr.–Oct.	225 00	May 5, 1916	4,668 75
5,000 00	Atchison, Topeka & Santa Fe Railway Company, General Mortgage Bonds	1995	4%	Apr.–Oct.	200 00	May 29, 1916	4,687 50
5,000 00	Norfolk & Western Railway, First Consol. Mortgage Bonds	1996	4%	Apr.–Oct.	200 00	May 29, 1916	4,681 25
5,000 00	New York Central Railroad Co., Refunding & Improvement Bonds	2013	4½%	Apr.–Oct.	225 00	May 29, 1916	4,706 25
5,000 00	Southern Pacific Railroad Co., First Refunding Mortgage Bonds	1955	4%	Jan.–July	200 00	May 29, 1916	4,533 75
5,000 00	Northern Pacific Railway Co., Refunding & Improvement Mortgage Bonds	2047	4½%	Jan.–July	225 00	July 17, 1916	4,825 00
5,000 00	Illinois Central Railroad Co., Refunding Mortgage Bonds	1955	4%	May–Nov.	200 00	Oct. 18, 1916	4,518 75

5,000 00	Chicago, Burlington & Quincy R. R. Company, General Mortgage Bonds	1958	4%	Mar.–Sept.	200 00	Dec. 30, 1916	4,717 50
5,000 00	Louisville & Nashville R. R. Co., Unified Mortgage Bonds	1940	4%	Jan.–July	200 00	Apr. 12, 1917	4,656 25
6,000 00	Baltimore & Ohio R. R. Co. (Pittsburgh, L. Erie & W. Va.), Refunding Mortgage Bonds	1941	4%	May–Nov.	240 00	July 16, 1917	4,808 75
5,000 00	Pennsylvania R. R. Co., General Mortgage Bonds	1965	4½%	June–Dec.	225 00	Oct. 19, 1917	4,608 75
1,000 00	Atchison, Topeka & Santa Fe Ry. Co., General MortgageBonds	1995	4%	Apr.–Oct.	40 00	Mar. 12, 1918	821 25
1,000 00	Norfolk & Western Ry. Co., Consolidated Bonds	1996	4%	Apr.–Oct.	40 00	Mar. 12, 1918	831 25
2,000 00	Union Pacific R. R. Co., 1st Lien Refunding Mortgage Bonds	2008	4%	Mar.–Sept.	80 00	Mar .12, 1918	1,592 50
2,000 00	Southern Pacific R. R. Co., 1st Refunding Mortgage Bonds	1955	4%	Jan.–July	80 00	Mar. 12, 1918	1,582 50
5,000 00	Great Northern Ry. Co., 1st Refunding Mortgage Bonds	1961	4¼%	Jan.–July	212 50	May 10, 1918	4,456 25
4,000 00	Atchison, Topeka & Santa Fe Ry. Co., General Mortgage Bonds	1995	4%	Apr.–Oct.	160 00	Aug. 19, 1918	3,250 00
2,000 00	Chicago, Burlington & Quincy Ry. Co., General Mortgage Bonds	1958	4%	Mar.–Sept.	80 00	Aug. 20, 1918	1,602 50
5,000 00	United States of America Third Liberty Loan Bonds	1928	4¼%	Mar.–Sept.	212 50	Nov. 30, 1918	4,890 00
$98,000 00					$4,120 00		$89,788 75

PENSION FUND ACCOUNT

RECEIPTS

1918

CASH ON HAND JANUARY 1, 1918			$7,656 79
CONTRIBUTIONS OF SUBSCRIBING EMPLOYEES:			
Deductions of 3% from Payrolls of			
City Maintenance Account	$4,503 21		
General Account	1,568 31		
Special Funds Account	69 08		
Corporate Stock Account	303 19		
Incidental Account	7 63		
Morris K. Jesup Fund Account	3,482 70		
		$9,934 12	
Personal Contributions of Subscribing Employees	765 66		
			$10,699 78
CONTRIBUTIONS OF BOARD OF TRUSTEES:			
To Equal Contributions of Subscribing Employees			10,702 83
SPECIAL CONTRIBUTIONS OF TRUSTEES FOR PAYMENT OF DEATH GRATUITIES			250 84
INTEREST ON INVESTMENT FUND			3,468 12
INTEREST ON ENDOWMENT FUND			50 34
INTEREST ON CREDIT BALANCES			211 10
BURSAR'S ACCOUNT			500 00
			$33,539 80

Examined and Approved { ADRIAN ISELIN, PERCY R. PYNE } *Auditing Committee*

PENSION FUND ACCOUNT

DISBURSEMENTS

1918

RETURN OF CONTRIBUTIONS	$1,497 28	
INTEREST ON CONTRIBUTIONS	69 45	
		$1,566 73
SERVICE PENSIONS	$516 00	
DEATH GRATUITIES PAID UNDER SECTION 13	1,058 23	
		1,574 23
PURCHASE OF SECURITIES:		
Investment Fund		19,064 62
EXPENSES		46 43
LOAN ACCOUNT		500 00
CASH ON HAND DECEMBER 31, 1918:		
Deposited with the United States Trust Company of New York	$10,287 79	
Deposited with Colonial Bank (Bursar's Account)	500 00	
		10,787 79
		$33,539 80

E. & O. E.

NEW YORK, *December 31, 1918*

H. P. DAVISON, *Treasurer*

PENSION FUND—SPECIAL FUNDS ACCOUNT

RECEIPTS

1918

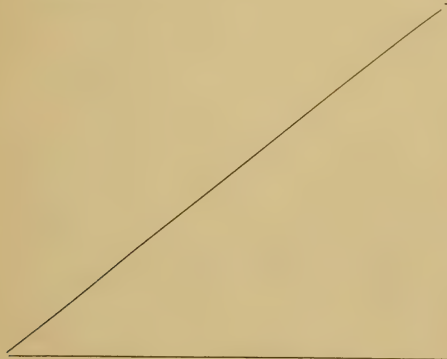
SPECIAL CONTRIBUTIONS No. 2:			
Cash on Hand January 1, 1918		$20 00	
CONTRIBUTIONS:			
Anonymous	$3 84		
Adrian Iselin	48 00		
		51 84	
INTEREST ON CREDIT BALANCES		12 16	
			$84 00
LIBERTY LOAN ACCOUNTS:			
Interest on Credit Balances			81 23
AMERICAN MUSEUM LIBERTY LOAN No. 1:			
Cash on Hand January 1, 1918		$5 20	
Subscribers' Payments:			
Personal	$699 16		
Deducted from Salaries	4,633 89		
		5,333 05	
INTEREST ON UNPAID BALANCES:			
Personal Payments	$8 14		
Deducted from Salaries	101 00		
		109 14	
			5,447 39
AMERICAN MUSEUM LIBERTY LOAN No. 2:			
Cash on Hand January 1, 1918		$719 56	
Subscribers' Payments:			
Personal	$1,116 40		
Deducted from Salaries	3,288 00		
		4,404 40	
INTEREST ON UNPAID BALANCES:			
Personal Payments	$5 61		
Deducted from Salaries	110 87		
		116 48	
			5,240 44
AMERICAN MUSEUM LIBERTY LOAN No. 3:			
Subscribers' Payments:			
Personal	$9,984 81		
Deducted from Salaries	5,407 25		
		$15,392 06	
Carried forward		$15,392 06	$10,853 06

PENSION FUND—SPECIAL FUNDS ACCOUNT

DISBURSEMENTS

1918

SPECIAL CONTRIBUTIONS No. 2:		
Payments for Relief		$84 00
AMERICAN MUSEUM LIBERTY LOAN No. 1:		
Purchase of Bonds:		
Loan Account	$5,345 55	
Interest on Loans	127 75	
		$5,473 30
AMERICAN MUSEUM LIBERTY LOAN No. 2:		
Purchase of Bonds:		
Loan Account	$5,104 00	
Interest on Loans	136 71	
		5,240 71
AMERICAN MUSEUM LIBERTY LOAN No. 3:		
Purchase of Bonds	$20,150 00	
Loan Account	7,759 56	
Interest on Loans	219 65	
		28,129 21



Carried forward....$38,927 22

PENSION FUND—SPECIAL FUNDS ACCOUNT

RECEIPTS (*continued*)

1918

Brought forward		$15,393 06	$10,853 06
INTEREST ON UNPAID BALANCES:			
Personal Payments	15 68		
Deducted from Salaries	189 48		
		205 16	
LOAN ACCOUNT		12,700 00	
			28,297 22
AMERICAN MUSEUM LIBERTY LOAN NO. 4:			
Subscribers' Payments:			
Personal	$8,866 47		
Deducted from Salaries	2,049 38		
		$10,915 85	
INTEREST ON UNPAID BALANCES:			
Personal Payments	$3 70		
Deducted from Salaries	65 32		
		69 02	
LOAN ACCOUNT		12,300 00	
			23,284 87
			$62,435 15

Examined and Approved { ADRIAN ISELIN, PERCY R. PYNE } *Auditing Committee*

PENSION FUND—SPECIAL FUNDS ACCOUNT

DISBURSEMENTS

1918

Brought forward		$38,927 22
AMERICAN MUSEUM LIBERTY LOAN NO. 4:		
Purchase of Bonds	$20,900 00	
Loan Account	2,075 62	
Interest on Loans	71 97	
		23,047 59
CASH ON HAND DECEMBER 31, 1918 DEPOSITED WITH THE UNITED STATES TRUST COMPANY OF NEW YORK		460 34
		$62,435 15

E. & O. E.

NEW YORK, *December 31, 1918*

H. P. DAVISON, *Treasurer.*

SEVENTH ANNUAL REPORT

OF THE

PENSION BOARD

OF

THE AMERICAN MUSEUM OF NATURAL HISTORY

FOR THE YEAR 1919

MISCELLANEOUS PUBLICATIONS OF
THE AMERICAN MUSEUM OF NATURAL HISTORY NO. 12

NEW YORK
February 2, 1920

SEVENTH ANNUAL REPORT

OF THE

PENSION BOARD

OF

THE AMERICAN MUSEUM OF NATURAL HISTORY

FOR THE YEAR 1919

MISCELLANEOUS PUBLICATIONS OF
THE AMERICAN MUSEUM OF NATURAL HISTORY NO. 12

NEW YORK
February 2, 1920

OFFICERS AND MEMBERS OF THE PENSION BOARD

1919

Chairman
FELIX M. WARBURG

Vice-Chairman
RALPH W. TOWER

Treasurer
HENRY P. DAVISON

Secretary
GEORGE N. PINDAR

TRUSTEE MEMBERS

ADRIAN ISELIN
WALTER B. JAMES
PERCY R. PYNE
FELIX M. WARBURG

EMPLOYEE MEMBERS

HARRY F. BEERS
RALPH W. TOWER
GEORGE N. PINDAR

Bursar
FREDERICK H. SMYTH

Counsel
LEWIS L. DELAFIELD

Consulting Actuary
S. HERBERT WOLFE

Medical Examiner
GEORGE M. MACKENZIE, M. D.

To the President and Trustees of The American Museum of Natural History and to the Subscribers to the Fund:

In accordance with the Rules and Regulations, I have the honor to transmit to you herewith the Seventh Annual Report of the activities of the Pension Board and of its financial operations for the fiscal year ending December 31, 1919.

FELIX M. WARBURG,
Chairman.

February 2, 1920.

The close of 1919 found the membership of the Fund comprised of 233 contributors and 3 retired employees. It is with regret that we are obliged to note the loss by death of two contributors and one retired member, further mention of whom will be found in another part of this report.

Facilities for the purchase of bonds by serial payments (through an arrangement similar to that offered in previous Government loans) were again extended to employees of the Museum in the Victory Loan through the generosity of one of our good friends. One hundred seventy-six employees took advantage of the opportunity, and the subscriptions, as in the two previous loans, passed the $20,000 mark, $20,200 being subscribed to the fifth loan.

Too much stress cannot be laid on the desirability of instituting a system of periodical physical inspection for our employees. It has been suggested that such a system be made obligatory, and that the employee be asked to contribute one-half of the expense of his examinations, which would probably number two a year and would be given at a nominal rate. It is realized that the introduction of such a plan might perhaps call forth some objection on the part of a few employees. Such opposition, however, would probably arise only in the first hasty consideration of the plan, and would disappear after a little clear thought had been given the matter. It is to-day a generally accepted fact that the interests of employer and employee are mutual and closely interrelated. Their obligations toward each other do not begin and end in the mere performance of and remuneration for a certain amount of work. The Museum authorities have found it possible, on a number of occasions in the past, to be of assistance in various ways to employees in need of medical or surgical attention. Such assistance has been as gratefully accepted as it was freely offered. Now the Corporation proposes to extend to all its employees its coöperation in detecting signs of threatened or incipient illness, and in promptly warding off or correcting the trouble. Such wise precaution will accomplish for the individual employee the elimination of preventable sickness, and a consequent extension of life, while for the Museum it will mean a generally higher standard of efficiency due to the higher physical standard among the employees. It is therefore the hope of the Pension Board that the proposi-

tion of periodical physical examinations, after its adoption by the Board of Trustees, will be met with favor, and even with enthusiasm, by the employees.

At the time of the adoption of our Rules and Regulations, Mr. S. Herbert Wolfe, the actuary who passed upon the plan, recommended that from time to time examinations be made of the condition of the Fund, and that a comprehensive survey be made at least every five years. The unusual conditions prevailing in 1918 prevented such an examination. In November last, however, Mr. Wolfe made an exhaustive examination, and we have his assurance that the accumulations of the Fund have reached the figure which it was assumed they would equal. But Mr. Wolfe makes suggestions looking forward to the improvement of the condition of the Fund, and to the further assurance of its continuity. The following excerpt from his report is worthy of earnest consideration:

"If the future experience follows that of the past, I am of the opinion that the scale of contributions may remain as it is, and the benefits will be paid as required. There are certain conditions, however, which must be noted in order that the entire matter may be intelligently considered.

"The number of contributing members is small, and it is axiomatic that the smaller the group the greater will be the effect of fluctuations from the normal.

"It would not be the part of wisdom to shut our eyes to the fact that throughout the world at this time a lack of balance is manifest in the financial, the social and the economic bases of our existence. What effect will these disturbances have upon the Fund? Will they serve to change the relationship existing between the Museum and its employees? Will they result in unrest which in turn will be evidenced by less persistent employment and by a desire to discontinue active work as soon as the retirement age has been reached? Will the changing economic conditions result in a modification of the wage scale to an extent which will disarrange the calculations upon which the Fund was started?

"No one is competent at this time to answer the foregoing questions, and I deem it desirable, therefore, to make a suggestion intended to shield the Fund from the effect of any adverse conditions which may be developed in the future. In

view of the excellent condition of the Fund, it would seem that this time is the most appropriate for the inauguration of this additional safeguard. I would therefore suggest the formation of a Trustees' Emergency Fund, which will not become an integral part of the Pension Fund, but which will be held as a reserve to be called upon if needed in the future and if not needed can revert to the original subscribers or become part of some other designated fund of your institution. I would suggest that this fund be placed at $150,000, and that it and its accumulations be set aside for the purposes indicated above."

Accepting this recommendation, it is the Committee's intention to endeavor to raise by personal solicitation the sum named.

Probably in every pension system it is found advisable to introduce certain changes or emendations after the plan has been in operation for a period long enough to indicate the conditions peculiar to the corporation or institution concerned. It seems wise that in our plan some provision be made whereby persons of over 45 years of age entering the employ of the Museum be permitted to become subscribers to the Fund, provided they be in good health.

Again, plans which, when formulated, seem clear in purpose and application, do not always prove satisfactory in their actual operation. It is therefore the intention of the Pension Board to clarify, at an early date, some of the rules pertaining to the administration of the Fund, as well as to recommend certain changes in the rules relating to retirements. Apropos of this latter purpose, we quote Mr. Wolfe, who had unusual opportunity to study the working of the pension systems of the United States Government and of foreign countries during the war, and was in a position to observe the weak points of various systems, the existence of which had not been anticipated:

"* * * it was observed that the cause for the constantly increasing amounts paid for our Army and Navy pensions was traceable not to pensions allotted to those who were disabled as the result of their military activities, but to those who received allowances based upon the mere fact that they were in service for a certain period. The latter group

may be said to correspond to those of your employees who would be entitled to retire after 30 years of service, irrespective of their then age. An employee entering your service at the age of 21 would become entitled to retire at the age of 51, and it is manifest that if employees should avail themselves of this privilege to any considerable extent the burden might prove embarrassing."

To the friends mentioned below we feel especially grateful for kindnesses conferred:

To Mr. S. Herbert Wolfe for his painstaking and complete survey of our Pension Fund.

To Mr. Horace F. Hutchinson and Mr. Richard B. Kelly for their generosity in placing at our disposal their endowed beds in the Presbyterian Hospital for the treatment of our sick.

To Mr. Lewis L. Delafield for advisory services freely rendered.

Deceased Subscribers

We deeply regret to have to report the deaths of the following members during the year 1919:

Jefferson L. Jeffords

Jefferson L. Jeffords was born on August 7, 1859, in Jamestown, New York. In 1908 he came to the Museum. For a number of years he worked as a machinist, being later assigned to the custodians' force. There he served to the time of his death, displaying always an unusually happy disposition, never failing courtesy and genial presence. His sudden death on October 15, 1919, came as a distinct shock to all his acquaintances. The institution has lost in him one who served with efficiency and a deep sense of personal interest.

John F. Jordan

John F. Jordan was born in London on April 8, 1847. In 1901 he entered the service of the Museum in the capacity of painter. Always cheerful, his cordiality won for him a warm welcome in the gatherings of his associates. The infirmities of age compelled him to retire in 1917. He died suddenly on February 27, 1919.

John T. Kyle

John T. Kyle was born May 4, 1874, in Jersey City. In early manhood he decided to learn carpentry, and served a

regular apprenticeship, upon the completion of which he became a ship-joiner. With this experience he joined the construction force of the Museum as a cabinet-maker, and in this position served efficiently for eight years. A man of exemplary character and habits, he was of sterling integrity, steadfast in friendship and always welcome among groups of his associates. Patient during a long-continued illness, he was released from his suffering on September 23, 1919.

RETIREMENTS

Name	Former Position	Date of Retirement	Yearly Allowance	Period of Service
John T. Davis	Carpenter	March 1, 1917	$311 64	15 years
H. Ernestine Ripley	Secretary	Jan. 1, 1919	416 00	16 years
George A. Young	Carpenter	Feb. 1, 1919	253 03	15 years

FINANCIAL STATEMENT

1919

Invested Funds

	Par Value	Book Value
Endowment Fund	$1,258 37	$1,140 39
Investment Fund	122,741 63	113,375 99
Total	$124,000 00	$114,516 38

STATEMENT OF INVESTED FUNDS

Par Value	Securities	Due	Rate of Int.	Interest Payable	Ann. Int.	Date Acquired	Book Value
$5,000 00	Union Pacific Railroad Company, 1st Lien & Refunding Mortgage Bonds	2008	4%	Mar.-Sept.	$200 00	Feb. 26, 1914	$4,687 50
5,000 00	Chicago & Northwestern Railway Company, General Mortgage Bonds	1987	4%	May-Nov.	200 00	July 7, 1914	4,725 00
5,000 00	Pennsylvania Railroad Company, General Mortgage Bonds	1965	4½%	June-Dec.	225 00	June 4, 1915	4,887 50
5,000 00	Baltimore & Ohio Railroad Co., Refunding & General Mortgage Bonds	1995	5%	June-Dec.	250 00	Dec. 29, 1915	5,050 00
5,000 00	Chicago, Milwaukee, St. Paul Railway Company, General & Refunding Mortgage Bonds	2014	4½%	Apr.-Oct.	225 00	May 5, 1916	4,668 75
5,000 00	Atchison, Topeka & Santa Fe Railway Company, General Mortgage Bonds	1995	4%	Apr.-Oct.	200 00	May 29, 1916	4,687 50
5,000 00	Norfolk & Western Railway, First Consol. Mortgage Bonds	1996	4%	Apr.-Oct.	200 00	May 29, 1916	4,681 25
5,000 00	New York Central Railroad Co., Refunding & Improvement Bonds	2013	4½%	Apr.-Oct.	225 00	May 29, 1916	4,706 25
5,000 00	Southern Pacific Railroad Co., First Refunding Mortgage Bonds	1955	4%	Jan.-July	200 00	May 29, 1916	4,533 75
5,000 00	Northern Pacific Railway Co., Refunding & Improvement Mortgage Bonds	2047	4½%	Jan.-July	225 00	July 17, 1916	4,825 00
5,000 00	Illinois Central Railroad Co., Refunding Mortgage Bonds	1955	4%	May-Nov.	200 00	Oct. 18, 1916	4,518 75
5,000 00	Chicago, Burlington & Quincy R. R. Company, General Mortgage Bonds	1958	4%	Mar.-Sept.	200 00	Dec. 30, 1916	4,717 50
5,000 00	Louisville & Nashville R. R. Co., Unified Mortgage Bonds	1940	4%	Jan.-July	200 00	Apr. 12, 1917	4,656 25
6,000 00	Baltimore & Ohio R. R. Co. (Pittsburgh, L. Erie & W. Va.), Refunding Mortgage Bonds	1941	4%	May-Nov.	240 00	July 16, 1917	4,808 75
5,000 00	Pennsylvania R. R. Co., General Mortgage Bonds.	1965	4½%	June-Dec.	225 00	Oct. 19, 1917	4,608 75

Par Value	Securities	Due	Rate of Int.	Interest Payable	Ann. Int.	Date Acquired	Book Value
1,000 00	Atchison, Topeka & Santa Fe Ry. Co., General Mortgage Bonds	1995	4%	Apr.-Oct.	40 00	Mar. 12, 1918	821 25
1,000 00	Norfolk & Western Ry. Co., Consolidated Bonds..	1996	4%	Apr.-Oct.	40 00	Mar. 12, 1918	831 25
2,000 00	Union Pacific R. R. Co., 1st Lien Refunding Mortgage Bonds	2008	4%	Mar.-Sept.	80 00	Mar. 12, 1918	1,592 50
2,000 00	Southern Pacific R. R. Co., 1st Refunding Mortgage Bonds	1955	4%	Jan.-July	80 00	Mar. 12, 1918	1,582 50
5,000 00	Great Northern Ry. Co., 1st Refunding Mortgage Bonds	1961	4¼%	Jan.-July	212 50	May 10, 1918	4,456 25
4,000 00	Atchison, Topeka & Santa Fe Ry. Co., General Mortgage Bonds	1995	4%	Apr.-Oct.	160 00	Aug. 19, 1918	3,250 00
2,000 00	Chicago, Burlington & Quincy Ry. Co., General Mortgage Bonds	1958	4%	Mar.-Sept.	80 00	Aug. 20, 1918	1,602 50
5,000 00	United States of America Third Liberty Loan Bonds	1928	4¼%	Mar.-Sept.	212 50	Nov. 30, 1918	4,890 00
3,000 00	Chicago, Burlington & Quincy R. R. Co., General Mortgage Bonds	1958	4%	Mar.-Sept.	120 00	Jan. 27, 1919	2,486 25
3,000 00	Union Pacific Railroad Co., 1st & Refunding Mortgage Bonds	2008	4%	Mar.-Sept.	120 00	Jan. 27, 1919	2,460 00
5,000 00	United States of America Victory Liberty Loan Bonds	1922/3	4¾%	June-Dec.	237 50	May 15, 1919	5,000 00
5,000 00	United States of America Victory Liberty Loan Bonds	1922/3	4¾%	June-Dec.	237 50	June 17, 1919	4,998 00
3,000 00	N. Y. C. Municipal Bonds	1927	4½%	Jan.-July	135 00	Sept. 19, 1919	3,001 88
2,000 00	Pennsylvania R. R. Co., General Mortgage Bonds.	1968	5%	June-Dec.	100 00	Oct. 2, 1919	1,827 50
5,000 00	United States of America Victory Liberty Loan Bonds	1922/3	4¾%	June-Dec.	237 50	Dec. 11, 1919	4,954 00
$124,000 00					$5,307 50		$114,516 38

PENSION FUND ACCOUNT

RECEIPTS

1919

CASH ON HAND, JANUARY 1, 1919			$10,787 79
CONTRIBUTIONS OF SUBSCRIBING EMPLOYEES:			
Deductions of 3% from Payrolls of			
City Maintenance Account	$4,919 05		
General Account	1,545 92		
Special Funds Account	29 09		
Corporate Stock Account	225 20		
Incidental Account	3 22		
Morris K. Jesup Fund Account	4,297 94		
		$11,020 42	
Personal Contributions of Subscribing Employees		487 25	
			11,507 67
CONTRIBUTIONS OF BOARD OF TRUSTEES:			
To Equal Contributions of Subscribing Employees			11,548 20
INTEREST ON INVESTMENT FUND			4,486 22
INTEREST ON ENDOWMENT FUND			50 34
INTEREST ON CREDIT BALANCES			204 43
BURSAR'S ACCOUNT			500 00
			$39,084 65

Examined and Approved { ADRIAN ISELIN, PERCY R. PYNE } *Auditing Committee*

in account with H. P. DAVISON, TREASURER

PENSION FUND ACCOUNT

DISBURSEMENTS

1919

RETURN OF CONTRIBUTIONS	$3,245 87	
INTEREST ON CONTRIBUTIONS	197 15	
		$3,443 02
SERVICE PENSIONS	577 03	
PENSION IN EVENT OF ILLNESS, DISMISSAL, ETC.	416 00	
DEATH GRATUITIES PAID UNDER SECTION 13	968 23	
" " " " " 18	735 70	
		2,696 96
PURCHASE OF SECURITIES:		
Investment Fund		24,689 26
EXPENSES		23 93
LOAN ACCOUNT		500 00
CASH ON HAND DECEMBER 31, 1919:		
Deposited with the United States Trust Company of New York	7,231 48	
Deposited with Colonial Bank (Bursar's Account)	500 00	
		7,731 48
		$39,084 65

E. & O. E.

NEW YORK, *December 31, 1919*

H. P. DAVISON, *Treasurer*

PENSION FUND—SPECIAL FUNDS ACCOUNT

RECEIPTS

1919

LIBERTY LOAN ACCOUNTS:			
Interest on Credit Balances			$96 83
AMERICAN MUSEUM LIBERTY LOAN NO. 1:			
Subscribers' Payments:			
Personal	$55 00		
Deducted from Salaries	337 50		
		392 50	
Interest on Unpaid Balances:			
Personal Payments	2 79		
Deducted from Salaries	1 05		
		3 84	
			396 34
AMERICAN MUSEUM LIBERTY LOAN NO. 2:			
Subscribers' Payments:			
Personal	90 00		
Deducted from Salaries	856 00		
		946 00	
Interest on Unpaid Balances:			
Personal Payment	1 17		
Deducted from Salaries	9 25		
		10 42	
			956 42
AMERICAN MUSEUM LIBERTY LOAN NO. 3:			
Cash on Hand January 1, 1919		182 50	
Subscribers' Payments:			
Personal	805 14		
Deducted from Salaries	3,952 80		
		4,757 94	
Interest on Unpaid Balances:			
Personal Payment	9 34		
Deducted from Salaries	84 16		
		93 50	
			5,033 94
AMERICAN MUSEUM LIBERTY LOAN NO. 4:			
Cash on Hand January 1, 1919		240 23	
Subscribers' Payments:			
Personal	2,076 55		
Deducted from Salaries	6,163 30		
		8,239 85	
Interest on Unpaid Balances:			
Personal Payment	11 00		
Deducted from Salaries	222 44	233 44	
			8,713 52
Carried forward			$15,197 05

PENSION FUND—SPECIAL FUNDS ACCOUNT

DISBURSEMENTS

1919

LIBERTY LOAN ACCOUNTS:		
Advances for 1918 Accounts		$43 62
AMERICAN MUSEUM LIBERTY LOAN No. 1:		
Purchase of Bonds:		
Loan Account	$384 95	
Interest on Loans	1 12	
		386 07
AMERICAN MUSEUM LIBERTY LOAN No. 2:		
Purchase of Bonds:		
Loan Account	946 00	
Interest on Loans	9 72	
		955 72
AMERICAN MUSEUM LIBERTY LOAN No. 3:		
Purchase of Bonds:		
Loan Account	4,940 44	
Interest on Loans	91 68	
		5,032 12
AMERICAN MUSEUM LIBERTY LOAN No. 4:		
Purchase of Bonds:		
Loan Account	8,385 08	
Interest on Loans	239 33	
		8,624 41
Carried forward		$15,041 94

PENSION FUND—SPECIAL FUNDS ACCOUNT

RECEIPTS (*Continued*)

1919

Brought forward			$15,197 05
AMERICAN MUSEUM VICTORY LIBERTY LOAN:			
Subscribers' Payments:			
Personal	$7,530 86		
Deducted from Salaries	5,735 50		
		$13,266 36	
Interest on Unpaid Balances:			
Personal Payments	17 35		
Deducted from Salaries	273 23		
		290 58	
Loan Account		15,250 00	
			28,806 94
			$44,003 99

Examined and Approved { ADRIAN ISELIN, PERCY R. PYNE } *Auditing Committee*

PENSION FUND—SPECIAL FUNDS ACCOUNT

DISBURSEMENTS (*Continued*)

1919

Brought forward		$15,041 94
AMERICAN MUSEUM VICTORY LIBERTY LOAN:		
Purchase of Bonds	$20,200 00	
Loan Account	8,316 36	
Interest on Loans	298 59	
		28,814 95
CASH ON HAND DECEMBER 31, 1919, DEPOSITED WITH THE UNITED STATES TRUST COMPANY OF NEW YORK		147 10
		$44,003 99

E. & O. E.

NEW YORK, *December 31, 1919*

H. P. DAVISON, *Treasurer*

1869 1920

FREE NATURE EDUCATION

BY

THE AMERICAN MUSEUM OF NATURAL HISTORY

IN COOPERATION WITH THE

DEPARTMENT OF EDUCATION

OF THE

CITY OF NEW YORK

1920

GENERAL SUMMARY

of Schools, Colleges, and Other Educational Institutions with which the Museum cooperated in 1919

BOARD OF EDUCATION—Greater New York	
Elementary Schools	380
High Schools	25
Training Schools	3
Corporate and Industrial Schools	13
UNIVERSITY OF THE STATE OF NEW YORK	
Division of Visual Instruction	1
SEMI-PUBLIC AND PRIVATE SCHOOLS OF GREATER NEW YORK	
Parochial Schools	18
Private Schools	20
PUBLIC SCHOOLS OUTSIDE OF GREATER NEW YORK	
Elementary	5
High	5
PRIVATE SCHOOLS OUTSIDE OF GREATER NEW YORK	4
COLLEGES AND UNIVERSITIES	5
MEDICAL SCHOOLS AND HOSPITALS	3
SCHOOLS OF ART AND DESIGN	3
LIBRARIES	16
MUSEUMS	7
MISCELLANEOUS EDUCATIONAL ORGANIZATIONS	25
NATURE STUDY LEAGUES AND BIOLOGICAL ASSOCIATIONS	9
INSTITUTIONS AND INDIVIDUALS SUPPLIED WITH BACTERIAL CULTURES	283
TOTAL	825

THE AMERICAN MUSEUM OF NATURAL HISTORY
77th Street and Central Park West, New York City

FREE NATURE EDUCATION

BY

THE AMERICAN MUSEUM OF NATURAL HISTORY

IN

PUBLIC SCHOOLS
AND COLLEGES

HISTORY AND STATUS OF MUSEUM INSTRUCTION
AND ITS EXTENSION TO THE SCHOOLS OF
GREATER NEW YORK AND VICINITY

BY

GEORGE H. SHERWOOD
Curator, Department of Public Education

With Foreword by
HENRY FAIRFIELD OSBORN
President of the Museum

Miscellaneous Publications of
The American Museum of Natural History, No. 13

CITY OF NEW YORK
1920

STAFF OF THE DEPARTMENT OF PUBLIC EDUCATION—1919

GEORGE H. SHERWOOD, A. B., A. M., Brown University, *Curator*

G. CLYDE FISHER, A. B., Miami University, Ph.D., Johns Hopkins University, *Associate Curator*

RUTH E. CROSBY, B. A., Wellesley College, *Assistant Curator*

HELEN M. VREELAND, Packer Collegiate Institute, New York State Normal School, *Secretary*

GRACE E. FISHER, State Normal School of Buffalo, *Slide Librarian*

HELEN W. RUSSELL, *Assistant Slide Librarian*

DOROTHY VAN VLIET, Packer Collegiate Institute, *Photo-Negative Librarian*

ALMEDA E. JOHNSON, *Assistant Photo-Negative Librarian*

KATHERINE S. SMITH, *Colorist*

JULIUS KIRSCHNER, *Senior Photographer*

KAY C. LENSKJOLD, *Junior Photographer*

THOMAS QUINN, *General Office Assistant*

HERMAN A. SIEVERS, *Senior Messenger*

THOMAS F. HINES, *Messenger*

W. J. KILLCOYNE, *Messenger*

LECTURE STAFF—1919

FREE LECTURES FOR SCHOOL CHILDREN

GEORGE H. SHERWOOD, A. B., A. M., Brown University, *Curator*

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To His Honor John F. Hylan,
Mayor of the City of New York,
and
To the Honorable Anning S. Prall,
President of the Board of Education.

Gentlemen:

I take pleasure in transmitting a Special Report on the Free Nature Education given by The American Museum of Natural History in coöperation with the Public Schools of New York City and vicinity, including a detailed account of the work for the year 1919, as submitted by Mr. George H. Sherwood, Curator of the Department of Public Education, January 13, 1920.

The work during 1919 has been carried on with the aid of the following funds:

Special appropriation by the Board of Education for school service	$4,100.00
Annual grant by the Board of Education for the lending of lantern slides to the public schools	2,000.00
Assignment from the Museum's maintenance fund, appropriated by the Board of Estimate and Apportionment	4,509.98
Special allotments from private funds and gifts, from Trustees' funds	10,994.55
	$21,604.53

The contributions from private funds and gifts are really very much larger than the figures indicate, because, as shown by the subjects selected by the Museum teachers and lecturers and by the parties of school children visiting the Museum, a large part of the results of the private expenditures of all previous years is drawn upon.

Very truly yours,

HENRY FAIRFIELD OSBORN,
President.

The American Museum of Natural History,
May 15, 1920.

ABSORBED IN STUDY OF THE METEORITES

NATURE IN THE SCHOOLS

Inspiration, Visual Instruction, Observation, Learning

BY HENRY FAIRFIELD OSBORN

The Old Museum Idea was that of a sanctuary or refuge, a safe deposit vault for curious, rare, or beautiful objects which otherwise might be lost or destroyed; the child or the ignorant visitor was tolerated rather than attracted; the curator was a keeper, not a teacher. The New Museum Idea is a complete fulfilment of Francis Bacon's plan of education as outlined in his "New Atlantis" (about 1617).

The growing museum influence, which during the past quarter of a century has been especially remarkable throughout the cities of the United States, is largely due to what may be called the New Museum Idea, namely, that *the Museum is not a conservative but a progressive educational force, that it has a teaching quality or value peculiar to itself, that the Museum succeeds if it teaches, fails partially if it merely amuses or interests people and fails entirely if it simply mystifies.*

The new spirit within the natural history museum is the educational spirit, and this is animated by what may be called its ethical sense, its sense of public duty, its realization that the general intelligence and welfare of the people are the prime reasons for its existence, that exploration, research, exhibition, and publication should all contribute to these ends, that to serve a community the Museum must reach out to all parts of nature and must master what nature has to show and to teach. *The Museum will flourish if the high educational service of the city and state is inscribed over its portal and instilled in the mind of every member of the staff from the highest to the lowest.*

Education is a great deal more than the three R's: it is inspiration as well as information; it is instruction in local history, in geography and geology, in travel, in climatic laws, in the simple economics of food, in all that concerns personal health of mind and body, in the natural history of flowers, forests, streams, of insects, fishes, birds, and mammals, in all that living nature has to tell our youth.

The chief subjects now extended to Schools by The American Museum of Natural History are:

Nature Study

Lessons from the Life of Land and Sea, Insects, Fishes, and Amphibians, Reptiles, Birds, Mammals

Geography of the World

Physical Features—Travel, Adventure, Exploration

GEOLOGY AND MINERALOGY
Structure of the Earth, of Rocks and Minerals

ZOÖLOGY
Life and Development of Animals

BOTANY AND FORESTRY
Life of Plants and Economic Uses of Woods

HEALTH AND HYGIENE, PERSONAL AND PUBLIC
Carriers and Control of Disease Germs,
Water Supply and Sanitation

HISTORY OF PRIMITIVE RACES OF MANKIND
Life of Natives of America and Other Countries

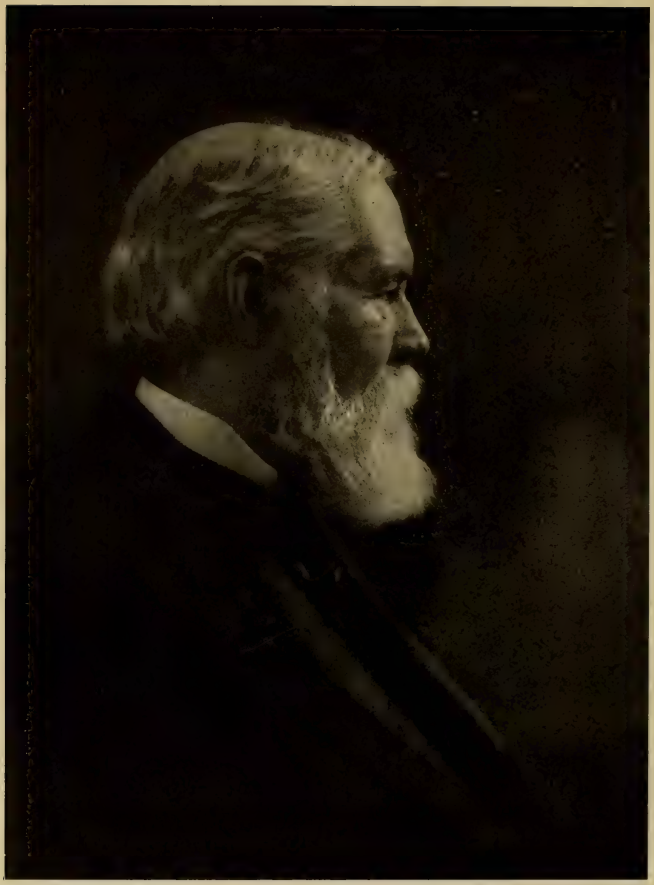
NATIVE ART AND DESIGN
Textiles and Industries

INDUSTRY, PRIMITIVE AND MODERN

HISTORY OF AMERICA AND RELATED COUNTRIES
Local History of New York City and State

The Museum is teaching these subjects in lectures, in its exhibition hall studies, and in its traveling museums in the schools. It has a corps of teachers specially trained to instruct the young. It draws upon its incomparable series of explorations, collections, and photographs from all parts of the world. It brings the latest discoveries of science to the eye and mind of the child. It aims not only to instruct but to *educate*. Through forty years of experience and experiment since our school work began, we have shown that the Museum is a real force in education, especially of the city-bred child and youth.

The School, the College, the University, and the Library have gone in advance; the Museum follows and has won its own place and influence because it supplies a demand which none of its sister institutions fills. The rise of the Museum as a new force in town, city, state, and nation is THE LATEST PHASE OF EDUCATIONAL EVOLUTION. Every community, small or large, needs its Museum as it needs its schools and its churches. The very fact of this independent development is a proof that the Museum is not one of the luxuries of New York life, but an essential and vital force in the enlightenment of our people.



ALBERT SMITH BICKMORE
1839-1914

Originator of the Plan of the American Museum in 1868
and
First Curator of Public Education
1880-1904

HISTORY OF THE MUSEUM'S NATURE EDUCATION IN THE PUBLIC SCHOOLS AND COLLEGES

BY GEORGE H. SHERWOOD

I. FIRST PERIOD: 1869-1904

Lecture Courses for Teachers—First Teaching Collections Deposited in the Schools

MAINTAINED CHIEFLY BY APPROPRIATIONS FROM THE STATE

LECTURES FOR TEACHERS

The possibility of the Museum as a factor in public education was one of the motives which inspired that group of public-spirited men who organized and founded The American Museum of Natural History. The general educational value of its collections and exhibits was widely accepted but as the institution grew it became more and more evident that if the Museum was to fulfil its function it must establish closer relations with the public schools and the educational system. The desirability of museum extension was early recognized, and the first steps in accomplishing this were taken in 1880, when the Trustees authorized Professor Albert S. Bickmore, the Superintendent of the Museum, to prepare for the public school teachers a special course of lectures on natural history to be given at the Museum and to be illustrated with the Museum's collections. In coöperation with the Board of Education, arrangements were made whereby thirty teachers were detailed to attend these lectures. The first lecture was given in 1881 to an audience of twenty-eight persons. The first course consisted of eighteen sessions, and, although the lectures were given out of school hours and the attendance was voluntary, there was a gratifying increase in attendance throughout the course. This work received the hearty indorsement of the City Superintendent of Schools and of the President of the Normal College of the City of New York, and was continued in succeeding years. In 1884, the educational authorities of the City and State were so impressed with the value of this educational work that the State appropriated the sum of $18,000 for its extension. Under this grant, Professor Bickmore prepared a comprehensive series of lectures to be given to the teachers of the City and State. Twenty lectures were scheduled for each year. The main purpose of these lectures was to give the teachers exact

information and to acquaint them with the riches of the Museum in order that their teaching might be more effective.

TEACHING COLLECTIONS

At this time, the Museum also prepared a teaching collection of rocks of Manhattan Island, dried plants, and many specimens of corals, shells, crustaceans, and insects. This material was installed in suitable cabinets and deposited in each of the 160 public schools of New York City, so that the teachers would have on hand material to illustrate for their pupils the facts learned at Professor Bickmore's lectures.

From this beginning there developed the system of Visual Instruction so closely identified with Professor Bickmore's name. The work received the support of the State from 1884 to 1904, except for two brief intervals in 1890 and 1892, and during this period of twenty years it was under the immediate direction of Professor Bickmore. He was a pioneer in education by the visual method. When he took hold of the work the technique of making lantern slides was in its infancy and simple projection machines had not been developed. Professor Bickmore applied himself to this new field in education with that same enthusiasm and persistence which had enabled him to create The American Museum of Natural History, for it was he more than anyone else who brought together the founders of the Museum and fostered it in its early days.

At first his audiences were small, the illustrative material meager and of poor quality. Professor Bickmore ransacked the corners of the earth for the best material. There was not a traveler of note who came to New York whom he did not seek out and ask for his negatives. He journeyed to remote lands himself, to obtain first-hand information, and in later years often sent out special photographers in order to obtain the best results possible. Finally his name became national and even international in educational circles, and a "Bickmore slide" stood for the finest photographic product that could be made. Thousands came annually to hear him, and through his efforts hundreds of thousands of school children obtained new concepts of nature.

Professor Bickmore's unique personal set of slides assembled during his long career in this work was presented to the Museum by himself and Mrs. Bickmore, and forms the nucleus of the extensive series of slides which the Museum now lends to schools.

In 1904 continued ill health compelled Professor Bickmore to retire from active service.

PROFESSOR ALBERT S. BICKMORE ADDRESSING TEACHERS IN THE AUDITORIUM OF THE MUSEUM

II. SECOND PERIOD: 1904-1919

A. Introduction of Circulating Nature Study Collections —Circulating Loan Collections for Libraries—Inauguration of Lectures for Pupils—Establishment of Special Guide Service—Special Provision for the Blind

SUPPORTED BY CITY MAINTENANCE AND TRUSTEES' FUNDS

The keynote of the first period of the Museum's educational activities (1869-1904) was instruction for teachers; that of the second period, instruction for pupils. During the first period, the scope of the work included the schools of the entire State. In the second, attention was focussed primarily on the schools of New York City. After 1904, the State withdrew its financial support, but the City gradually increased its appropriation for maintenance. It was proper, therefore, that the Museum should give its attention to the needs of the City schools rather than to those of the State. Moreover, the introduction of nature study into the curriculum, the development of modern pedagogical methods, the growth of libraries, the perfecting of projection apparatus which rendered illustrated lectures more practicable, and the continued increase in the wealth of the Museum's educational materials, all contributed to direct the work into new fields.

CIRCULATING NATURE STUDY COLLECTIONS

Nature study was introduced as a subject in the curriculum of the New York public schools in 1902, and an elaborate Syllabus was placed in the hands of the teachers. This Syllabus required the teacher to give instruction in a great many subjects but made no provision for supplying the necessary material. The individual teacher was supposed to get her material when and where she could. In their urgent need many teachers appealed to the Museum for assistance. The Director of the Museum realized that here was an opportunity for the Museum to greatly extend its sphere of usefulness, and, following his recommendation, the Trustees authorized the preparation of a series of collections for use in the schools. These collections were prepared with the object of placing in the hands of the teachers, so far as practicable, the actual specimens referred to in the Syllabus of Nature Study issued by the Board of Education. In many respects the collections were similar to those deposited in the schools in 1884, but the new collections were sent out as loans, and not as permanent deposits as was done with the first collections. This

feature alone has an important bearing on the success of the present system of circulating collections. Each collection is put up in a small cabinet about the size of a suit-case and is accompanied by a leaflet giving simple facts on the structure, habits, or characteristics of the particular species in the collection. These notes are necessarily brief and are intended chiefly as suggestions to the teachers. A brief bibliography on the subjects is noted and attention is called to the local collections of birds or other animals in the Museum building.

The method by which the teacher obtains the collections has been made as simple as possible. The Museum furnishes blanks upon which the principals make application for the collections and at the same time indicate the sequence desired. Delivery is then made by the Museum messengers, who call again at the end of the loan period, that is, in three or four weeks, and make the second delivery. This method keeps the Museum in frequent touch with the teachers and enables us to understand their needs.

The work began with ten small cabinets of birds. The requests for the collections became so numerous that it was necessary immediately to increase the number as well as the variety of the collections. In the first year collections of minerals and rocks, native woods, insects, and several other lower animals were added to the series. The collections then covered the greater part of the material suggested in the Syllabus, and the growth of the work merely required the duplication of the collections already in circulation. The collections now comprise minerals, rocks, woods, sponges, corals, sea-urchins, starfishes, mollusks, worms, crabs, insects, birds, and small mammals. The teaching value of these collections is enhanced manyfold because the individual specimens may be removed from the cases and utilized for close observation.

Owing to the growing interest in questions of public health, a number of folios pertaining to public health have been added to the series. These comprise photographs illustrating the sources, spread, and prevention of contagious diseases, the part played by insects in carrying disease, and bacteria and their work. These public health folios were prepared under the immediate direction of Professor C.-E. A. Winslow, Curator of the Museum's Department of Public Health. They are in great demand, especially by the teachers of High Schools, and their duplication is desirable. Recently the first series of Public Health Charts, namely, "The Spread and Prevention of Communicable Diseases," has been issued in printed form on cloth-backed paper, 22 x 28 inches. Now there are 250 sets of these charts available for the New York Schools, and a limited number can be sold to other educational organizations.

CIRCULATING NATURE STUDY COLLECTIONS FOR THE PUBLIC SCHOOLS

The following statistical table illustrates the growth of this branch of the work:

GROWTH OF THE CIRCULATING NATURE STUDY COLLECTIONS

	1904	1905	1906	1907	1908	1909
Number of Collections in Use	120	400	435	450	484	435
Number of Schools of Greater New York Supplied.....	115	200	300	325	383	419
Number of Pupils Studying the Collections	250,000	375,000	800,000	725,000	575,801	922,512

	1910	1911	1912	1913	1914	1915
Number of Collections in Use	390	512	537	597	675	671
Number of Schools of Greater New York Supplied.....	334	486	491	501	470	473
Number of Pupils Studying the Collections	839,089	1,253,435	1,275,890	1,378,599	1,273,853	1,238,581

	1916	1917	1918	1919
Number of Collections in Use	704	712	629	668
Number of Schools of Greater New York Supplied.....	439	446	419	385
Number of Pupils Studying the Collections	1,118,322	1,075,076	790,346	860,992

One important feature of this work is the personal relation established between the teachers and the Museum officers. This is mutually helpful and enables us to enlarge the collections or prepare new ones as the case may require. Thus the emphasis placed in the Syllabus upon animals useful to man and animals harmful to man has led to the addition of two new exhibits to the loan series, namely, ten sets of economic insects showing the life history of the destructive tent-caterpillar and of the useful silkworm. The collections were further augmented by the preparation of cases of moths and butterflies for the use of classes in drawing and design, and special collections of birds and shells have been provided.

A complete list of the circulating nature study collections will be found in Appendix H.

COÖPERATION WITH PUBLIC LIBRARIES

The lending of circulating collections to public libraries is another branch of extension work carried on by the Museum. It was begun in 1907, and until 1915 consisted of the sending of special exhibits to the children's departments of the Branch Libraries of New York City. After consultation with Miss Annie Carroll Moore, Supervisor of Children's Rooms, Museum specimens were selected and placed on exhibition for an indefinite period. In many cases the increase in the circulation of books relating to the subjects illustrated by the collections has been most marked.

In 1915, it was felt that the importance of the work warranted its careful organization and development. In the Museum storerooms are clothing, pottery, basketry, industrial models, dolls, implements of war, birds, animals, and many other types of specimens that can be used with success to illustrate books on travel and geography, nature study, history, current events, and art. From these, through the coöperation of the Department Curators, permanent circulating loan exhibits were selected. They were labeled and in some cases illustrated by large mounted photographs. From time to time, additions have been made to these until today there are available for library use collections on Bird Engineers, Bird Neighbors, Small Mammals, Sponges and Corals, Primitive Arms and Armor, Dolls from Many Lands, The Eskimo, Indians of the Eastern Woodlands, Indians of the Plains, The Southwest Indians, Japan, Mexico, The Philippines, South Africa, and Siberia. To meet special needs of the librarians, temporary exhibits are also prepared. Specimens illustrating Chinese Costume, The Story of Cotton, Primitive Navigation, Pottery, Basketry, Special Birds, and Indians have been sent as temporary loans, perhaps to aid a group of factory girls from the Y. W. C. A., or a public school class visiting the library.

The circulating loan collections are carried to the libraries by the Museum messenger and are returned by him after a period of one or two months. They are arranged in the exhibition cases by the librarians themselves, who understand best the needs of their neighborhood.

When placed on exhibition the collections are used in various ways. In some of the adults' and children's departments they are designed to add attractiveness to the rooms and to increase the circulation of books related to the subject. In many of the children's rooms, however, there is a more definite plan of action. Sometimes the exhibit is made the center of interest about which the librarian's story hour legends are grouped; sometimes a member of the Museum staff explains the material. More often, however, the collections form the basis of definite coöperation between the schools and the libraries. Children who are studying Mexico in their classrooms are

INDIANS OF THE EASTERN WOODLANDS

One of the Circulating Collections the Museum Sends to Public Libraries

taken by their teachers to the library, where they examine the Mexican material loaned by the Museum and read books describing that country; children who are studying *The Song of Hiawatha* visit the library to see the Indian collections, and boys and girls who are learning the principles of design go with their notebooks to copy the decorations on Indian basketry and pottery.

The field is an unlimited one. The exhibits give to children and adults who have not the necessary car fare to come to the Museum an opportunity to examine natural history objects of broad educational value, and to do this in a library where they are surrounded by well chosen books of information. Oftentimes, moreover, these exhibits awaken the spirit of research; they lead the student to understand the correlation possible between a library and a museum; they bring him to the Museum to see the extensive collections here, and then send him back to the library for further reading.

LECTURES FOR PUPILS

Through personal acquaintance with the teachers, brought about by the establishment of the circulating nature study collections, we learned that there was a widespread desire for illustrated lectures for children, which would supplement the classroom work in geography, history, and natural science. The question of special lectures for school children was brought to a focus when in February, 1904, the Committee on Children's Interests of the New York City Teachers' Association (through its Chairman, Miss Alida S. Williams) requested the Museum to give a series of lectures for children, illustrative of the studies pursued in the public schools, and offered to submit for approval a plan of lectures adapted to the various grades of the school course of study. This request was acted upon favorably by the Museum authorities, and, in coöperation with the Committee on Children's Interests, a course of twelve lectures was prepared and delivered in the fall of 1904. Each of these lectures was given three times in the course. The lectures were in the nature of informal talks and were fully illustrated with lantern slides. The subjects were chosen with special reference to the courses of study, particularly in history, geography, and nature study, and were designed to supplement the classroom work of the teachers. The lectures were given by members of the Scientific Staff on Monday, Wednesday, and Friday afternoons at four o'clock, and attendance on the part of teachers and pupils was voluntary. Their success was instant. The children came to the Museum literally by thousands and the teachers were enthusiastic in their praise of the work. Similar courses have been given each spring and fall, with two exceptions, since that date. Under the direction of Dr. G. Clyde Fisher, who joined the staff in 1913, the scope of the lectures has

been broadened. The subjects have been varied from time to time, and the children's interest has been intensified by the introduction of motion pictures.

Since 1914 these courses have been supplemented with a special series of lectures devoted exclusively to natural history, designed to encourage in children a greater interest in nature and outdoor life. Such topics as "Sea Creatures of Our Shores," "The Birds of Our Parks," "Fur-bearers Found Within Fifty Miles of New York City," "Wild Flowers of the Vicinity of New York City," and similar subjects have been taken up.

SPECIAL GUIDE SERVICE

The interest in natural history aroused in the teachers and pupils by the circulating nature study collections and the lecture courses have led many teachers to bring their pupils to the Museum for study and examination of the principal exhibits. In order to enable the teachers and the pupils to utilize the time spent at the Museum to the best advantage, the plan was adopted in 1906 of providing an instructor for such classes. This instruction was adapted especially to children. This branch of the work has had a steady growth, and the plan of giving special lectures to pupils, illustrating the facts brought out in the lectures by later examination of the collections in the exhibition halls, has developed from it. This docent service is in a formative stage, owing in part to the fact that regular attendance of classes has not been organized or the Museum instruction fully correlated with school work. This instruction in the exhibition halls is equivalent to laboratory work and is of great importance as a method of education. In 1916-1917 this method of teaching was given more intensive study through coöperation with Barnard College. Students in anthropology supplemented their college work by visiting the Museum at stated intervals for study in the exhibition halls under the guidance of Miss Ann E. Thomas. The results demonstrated the value of this instruction.

The instruction in the exhibition halls has reached its highest specialization in the Darwin Hall, through coöperation with the Department of Invertebrate Zoölogy. A special docent is assigned to this hall. He meets all visiting classes and directs their study. In 1919, 11,454 pupils were reached in this way. Docent service in the other halls is given principally by staff members of the Department of Public Education.

In some instances teachers have preferred to give their pupils special talks or lectures themselves. For this purpose, the Museum has provided several small classrooms, equipped with chairs, tables, blackboards, and stereopticons, which may be reserved on request.

PUPILS FROM THE HIGH SCHOOL OF COMMERCE BEFORE THE MALARIAL MOSQUITO EXHIBIT

Not infrequently specimens from the study collections have been placed in the classroom for special study.

INDUSTRIAL USE OF MUSEUM COLLECTIONS

A new sphere for the utilization of Museum specimens in industrial education has been developed recently by the Department of Anthropology. Students of design have been encouraged to seek their inspiration in Museum collections showing the decorative arts of primitive peoples. The movement was started about seventeen years ago, and each year has seen an increase in the number of those who have availed themselves of the opportunity. Some of the artists who come are not attached to any school, but the greater part are from the public schools of New York City, Teachers College (Columbia University), Hunter College, Cooper Union, New York School of Fine and Applied Arts, Keramic Society of Greater New York, Ethical Culture School, School of Applied Design for Women, and Pratt Institute.

Two rooms are reserved for the use of designers, to whom unusual facilities for study are offered. Garments, pieces of cloth, pottery, baskets, and other objects illustrating primitive arts are placed on tables; books from the Museum Library that have proved most helpful are kept at hand; and often students are permitted to go to the storerooms to make their own selection of materials. From time to time, Mr. Charles W. Mead, Assistant Curator of Anthropology, who has charge of the Peruvian Hall, arranges for exhibitions of designs suggested by the arts of ancient Peru, while Mr. M. D. C. Crawford, Research Associate in Textiles, conducts classes and plans contests for professional and non-professional artists.

During the war, many designers who formerly made Paris their headquarters were forced to remain in this country. They turned to the Museum's collections for inspiration and gave the movement great impetus. The results may be seen in the designs of silks, carpets, rugs, bead bags, wall paper, and ceramics of some of the foremost manufacturing concerns in America. They give promise that in the near future there will be an American school of design.

INDUSTRIAL ART EXHIBITION

The possibility of the wide educational influence of the Museum in the art and industrial life of the City was demonstrated by the special Exhibition of Industrial Art in Textiles and Costumes, held in the Museum in November, 1919. The primary purpose of this exhibition was to show how Museum material could serve as the inspiration for designs in textiles and in costumes. The exhibition was installed under the direction of Curator Wissler and Doctor Herbert J. Spinden, assisted by Mr. David Aaron, Mr. M. D. C.

Crawford, Mr. Stewart Culin, Mr. Max Meyer and Miss Jessie Franklin Turner, and the movement had the hearty support and coöperation of thirty-five manufacturing houses and experienced designers. In the plan of the exhibition, the Museum specimen was shown in proximity to the modern design or costume derived from it. This initial step in pointing out the possibilities of coöperation between our museum and the textile industries received much favorable comment.

The managers of several of the New York City department stores have shown much interest in the industrial use of Museum collections. They have sent the heads of their departments and other employees to the Museum to study primitive textiles and their ornamentation. One of the largest firms of the City has arranged to have all the salesgirls that preside at the counters where cloth is sold visit the Museum. They come with the Company's Art Instructor in groups of about twenty. A member of the Museum's staff shows them a primitive loom and explains the way in which it is used. They are told about the technique of the various modern weaves and their decoration. It is believed that a knowledge of the history and methods of textile manufacture will make the daily work of the girls more pleasant and their salesmanship more effective.

EDUCATION FOR THE BLIND

The broad scope of the educational work of the Museum is indicated by the action of the Trustees in making special provision for instruction for the blind. This work was begun in 1909 under the immediate charge of Mrs. Agnes Laidlaw Vaughan, who resigned in 1914. From that time it was directed by Miss Ann E. Thomas until she entered her new field of work in 1919. The further development of this work has been taken up by Miss Ruth E. Crosby, who joined the staff in October, 1919.

During the first year it was experimental. In 1910, however, its development and extension were made possible through the bequest of Miss Phebe Anna Thorne, and gifts from her estate through her executors, Jonathan and Samuel Thorne. This generous endowment is known as the Jonathan Thorne Memorial Fund, and provides a fixed income that enables the Museum to send loan collections to schools in the vicinity of New York, to give illustrated lectures in the Museum to school children and to adult blind, and to supply transportation for the blind and their guides to and from the Museum.

More than 150 blind or partially blind children from the public schools of Manhattan, The Bronx, Newark, and Jersey City come regularly to the Museum for instruction. The visits are made during school hours and are recognized as a part of the school curriculum.

A LESSON IN ASTRONOMY

Blind Pupils from the Public Schools Visit the Museum for Special Instruction

In 1913 and 1914, the classes of New York City were divided into two groups and visited the Museum twice a month.

During the last six years, the work with the schools has been so arranged that each class has received individual instruction. The small number of pupils—from nine to twelve in a group—makes it possible for each child to "see" carefully every article under discussion. Moreover, the teacher is enabled to select lesson subjects especially adapted to her needs. From a list of ten or fifteen topics on nature study, geography and travel, industrial life, and history, five are generally chosen by each class. The talks are given by Museum docents, and the lessons are carefully illustrated by objects that every pupil may handle. The lectures are planned both to supplement the prescribed school work and to add interest and general knowledge to the life of the blind child.

Not only do the children come to the Museum, but the Museum, through its circulating collections, is carried to them. Nature Study material—native birds, small mammals, minerals and rocks—and large relief globes of the world are delivered at the schools to be used during the lesson hours as the teachers desire.

The constant moving of the adult blind of a great city, their sickness, helplessness, poverty, and inability to face inclement weather, make it difficult to reach them except by lectures. The Museum has a directory of the names of about seven hundred blind persons. With the aid of this and the various charitable institutions of New York City, it gets its invitations into the hands of all interested adult blind. The lectures are free. They are given in the evening, and Boy Scouts kindly act as guides. Before the talk, the animals, birds, or flowers about which the lecturer is to speak are on exhibition in the entrance hall, where they may be examined under guidance. Among the speakers during the last few years have been Rear Admiral Peary, Sir Arthur Pearson, Ernest Harold Baynes, Louis Agassiz Fuertes, Ernest Thompson Seton, Charles Crawford Gorst, George K. Cherrie, and G. Clyde Fisher.

Indications of the value of the instruction for adults reach the Museum occasionally. Sometimes they come from the happy faces of the blind as they leave the foyer with their hands full of flowers; sometimes they come in letters of thanks. From the school children, however, the Museum gets direct expression of the helpfulness of the work. The classes are regular in their attendance, and often compose essays based on the lessons. To them the visit means more than an hour's instruction. One teacher writes, "General class instruction is easier because of their visits to the Museum. Children of little experience in life and meagre opportunity for general information speak with some ease and familiarity of animals, birds, people, and customs about which they have been informed under

your guidance. I thank you heartily in behalf of these children, who scarcely realize to what extent you are broadening their horizon."

B. Extension of Educational Work in 1915—Lending of Lantern Slides to Teachers—Establishment of Local Lecture Centers

SUPPORTED BY TRUSTEES' FUNDS AND BY SPECIAL APPROPRIATIONS OF THE BOARD OF EDUCATION

Through the Museum's recent educational work the institution has been brought into close relations with the educational system of the City, and through its invaluable collections from all parts of the world, its carefully installed exhibits, and its corps of trained scientists, the Museum exerts a wide and growing influence in the community.

With the exception of the system of circulating nature study collections, all the methods of Museum instruction employed until 1914 necessitated the presence of teachers and pupils at the Museum. While it is desirable that children should visit the Museum as often as possible, the difficulties and dangers of travel and cost of transportation prohibit many thousands of pupils from coming to the Museum. A laborer who earns only $5.00 per day can ill afford to pay twenty cents for car fare to send his son or daughter to the Museum, especially when this child is perhaps only one of five or six, all of whom ought to have the same opportunities. It was with the desire to take the Museum treasures to these less favored children and to extend the influence of the Museum, that the Curator addressed the following letter to President Osborn:

April 15, 1914.

My dear President Osborn:

For the past ten years, the Department of Public Education of the Museum has been devoting special attention to the establishment of close relations with the public schools and the educational system of the City. The principal features of this work have been the cabinets of natural history specimens, which have been circulated through the schools, and the various courses of lectures for school children delivered at the Museum. The methods adopted have met with such success that the teachers now regard our circulating collections and our lectures as important adjuncts, if not indispensable aids, in their work.

In the past, the lectures have been given only at the Museum, after school hours, and attendance is voluntary. The large attendance at these lectures is very gratifying, for few realize what a strain it is upon a teacher to bring safely a class of twenty-five to fifty pupils to the Museum. She must get the written permission of the parents of each child before starting; she must take up this work when her normal day's work is finished; she must guard her

THE CHILDREN BEHOLD A "CITY" OF STRANGE BIRDS

pupils from accident on the streets. After the lecture is over, the teacher must take her pupils, at rush hours, back to the school and there dismiss them, and it is often eight o'clock in the evening before she reaches home for dinner.

In view of the severe strain on the teacher, the dangers incident to the transportation of children through the city streets and, most important of all, the fact that many parents cannot afford the necessary car fare, we believe that there is no extension of our educational work which would exert a wider influence and give more practical results than the establishment of a series of LECTURE CENTERS. The plan that we have in mind contemplates the selection of a centrally located school in each district in which would be given, by members of the Museum's staff, lectures similar to those now given for school children in our auditorium. This is a plan which scores of teachers have been urging for several years, but we have not been able to comply with these requests because our lecture force is small and our funds insufficient. With our present staff, however, it might be feasible to open half a dozen centers, but in order to supply the demand it will ultimately mean the training of a special corps of lecturers for this work.

Many requests are also received from teachers for the loan of lantern slides to illustrate subjects which they desire to present to their pupils. We have not been in a position to grant these requests, because our slides were not properly catalogued and we were not prepared to undertake the LOAN SYSTEM. Chiefly through the gift of Professor and Mrs. Bickmore, the Museum possesses a splendid series of lantern slides. Our collection numbers more than 20,000 slides, and since the Albany fire destroyed the original negatives of the Bickmore slides, our collection is probably the finest in this country. Sufficient progress has now been made in the cataloguing of our slide collections to enable us to undertake, in a limited way, the sending out of slides to the schools. It is especially desirable that the Museum should take up this work, since the State Department of Education at Albany is not in a position to supply the requests of the New York City teachers.

The effectiveness of nature study in the public schools of the City today is largely dependent upon the enthusiasm of the individual teacher and the accessibility of nature study material. Our present circulating collections are doing important work, inasmuch as they place in the hands of the teachers definite nature study material, but more effective results might be obtained if the teacher could have available a more extensive teaching collection. For this reason it would seem desirable to establish a BRANCH TEACHING MUSEUM in a number of centrally located schools. This could be accomplished if a case, say 8′ x 7′ x 1½′, was placed in each of the selected schools, and we installed a larger and more comprehensive teaching collection of natural history objects than is possible to send out in our regular circulating collections. The teachers of the district could then draw upon this material as required. The material in these cases should be changed periodically, perhaps three or four times a year, corresponding to changes in the course of study. The branch teaching museum should contain not only representative specimens of the animals that are being studied, but small portable groups illustrating the relations of certain animals to environment.

Development along this line will involve considerable expense, for the cases should be uniform and the specimens in first-class condition. The problems of transportation and transfer could be handled by our present force. I feel that it would not be wise, however, to undertake the establishing of such branch museums as outlined above until the whole problem of nature study in the public schools has been considered, in order that it may be properly correlated with the nature study work required in the curriculum.

There are many problems to be solved in the working out of the details in the three lines of extension proposed above, but if the general policy meets with your approval, I should like to carry my investigations further and submit detailed plans to you.

Very truly yours,

GEORGE H. SHERWOOD,
Curator.

The plans for the proposed extension received the hearty support of President Osborn and he presented them to the Trustees at their meeting of May 4, 1914.

The Trustees felt that it was very desirable to undertake this work, but that, in view of what they were already doing for education without expense to the City, they could not provide the necessary funds for carrying out the proposed extension. They finally adopted the following resolution:

"RESOLVED, That the Board approves the general project embodied in Mr. Sherwood's report, if the same can be carried out without expense to this institution.

"RESOLVED, That a Committee of Two be appointed by the President to take steps to carry out the project, if it can be accomplished."

Pursuant to this action of the Trustees, President Osborn appointed the following Committee to consider the details of the plans proposed:

FELIX M. WARBURG, R. FULTON CUTTING — *Trustee Members*
GEORGE H. SHERWOOD, C.-E. A. WINSLOW — *Faculty Members*

The matter was brought to the attention of President Churchill of the Board of Education, who immediately appointed a special committee consisting of

FRANK D. WILSEY
IRA S. WILE
FRANCIS P. CUNNION

to consider with the Museum authorities plans for coöperation.

THE SLIDE LIBRARY

Public School Teachers Selecting Slides for Classroom Use

Chairman Wilsey called on President Osborn and made an examination of the educational work the Museum was already doing and of the plans for extending it. On the same day President Osborn had a conference with President Churchill, who endorsed the plans and gave assurance of his cordial coöperation.

From the beginning the Curator was in consultation with Superintendent Maxwell and Associate Superintendent Straubenmüller, both of whom gave much practical assistance in the formulation of the plans for the proposed extension.

After careful study of the problems involved, plans for the extension work of the American Museum were recommended to the Committees of the Trustees and of the Board of Education and application was made for an appropriation of $10,000 for carrying them out. These plans provided for:

1. The opening of ten local lecture centers and the delivery by members of the Museum staff of eighteen lectures in each center during the school year, the lectures to be mainly on geographical, historical and industrial subjects, and fully illustrated.
2. The inauguration of a system of lending slides, which would place at the disposal of the teachers of the public schools, for use in their classrooms, the extensive series of lantern slides belonging to the Museum.
3. The establishment of a branch museum in the Washington Irving High School which would be a local museum for the lower east side of the City.

The plans for the proposed extension received the unanimous support of the Committee of the Board of Education, and on its recommendation an application for $10,000 to put it into operation was incorporated in its budget request for 1915. In spite of this action of the Board of Education, the budget examiners for the Board of Estimate and Apportionment struck out the provisions for the Local Lecture Centers and the Branch Teaching Museum, and accepted only one feature of the proposed extension, namely, the lending of lantern slides. For this work an appropriation of $2,000 was allotted in the 1915 budget of the Board of Education.

LANTERN SLIDES FOR TEACHERS

The failure of the City to provide for the entire program of the proposed extension was a keen disappointment. Nevertheless, the staff of the Department of Public Education took up at once the problems of inaugurating the system of lending slides. Miss Kathryn I. Upson, a graduate of Vassar College, was appointed Slide Librarian. She gave her immediate attention to completing the catalogue of the slides and to the preparation of refer-

ence catalogues and order forms for the use of teachers. We realized that, with the numerous demands upon the teachers, many would not have time to prepare lectures from miscellaneous slides. Accordingly, the staff of the Department undertook the preparation of several lectures on topics connected with school work. Each set of slides was accompanied with a manuscript, so that teachers could prepare their own lectures with a minimum of effort. These lecture sets are greatly appreciated by the teachers and are in almost constant use. At first, five sets were prepared. They have now been increased to twenty-seven. Announcements of the plan for loaning slides, together with reference catalogues and order blanks, were sent to all the schools in the City. Museum messengers deliver the slides and call for them at the end of the loan period.

At first, the use of the slides was somewhat limited by the fact that many schools were not equipped with classrooms which could be darkened, or did not possess stereopticons. In spite of these handicaps, the growth of this work has been most encouraging, as the following statistics show:

	1915 (9 months)	1916	1917	1918	1919
Number of Loans of Slides to Public Schools	146	491	935	992	1,470
Number of Public Schools Borrowing Slides	35	63	84	102	92
Number of Slides Circulated	11,929	38,912	63,111	72,287	80,468

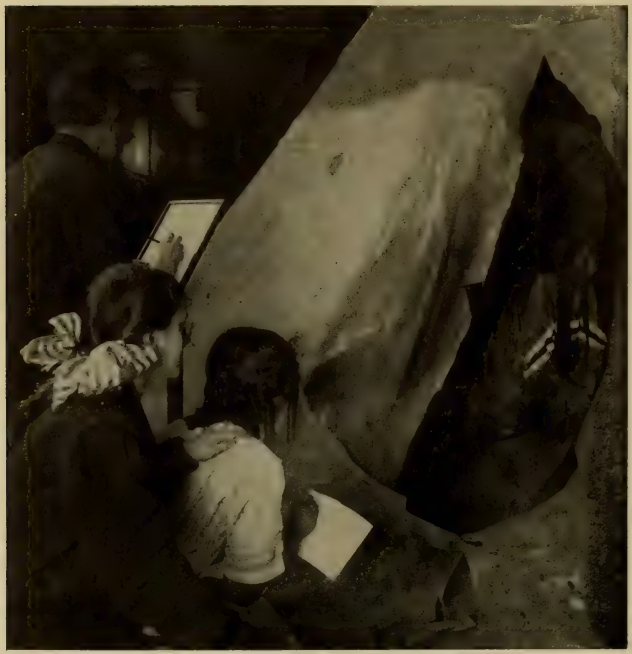
Since 1915, the City has provided annually, through the Board of Education, $2,000 for this work. While this appropriation was ample for the first two years, it is not now sufficient to cover the cost of distributing the slides and the expenses incident to the preparation of lecture sets, manuscripts, and catalogues. Owing to the demand for this material, the work has increased more than 500 per cent. since the first year, and larger appropriations must be provided if this service to the schools is to be maintained.

LOCAL LECTURE CENTERS

Although the City did not financially support the Museum's plan to open Local Lecture Centers, in connection with the proposed extension in 1914, the need of this kind of educational work was so apparent that the Trustees authorized the Curator of Public Education to arrange for courses of lectures in two of the public schools, as a practical demonstration of the effectiveness of this method of instruction. These were given in the Washington Irving High School, in coöperation with Miss Rosemary F. Mullen, and in Public School No. 64, in coöperation with Mr. William F. Grady.

WITH THE PELICANS

The Museum is a wonder world of true stories for the younger children who are brought to the Museum by the boys and girls of school years



STUDYING THE HOME LIFE WITHIN AN INDIAN TIPI

As one walks about the Museum, he can but remark the large numbers of children eagerly recording what they see or copying facts from labels. The sight is a spur to the Museum to give its exhibits a still more civic trend, a still more human touch and to make its labels tell more fully and simply just what the child wishes to know and should know

The Washington Irving High School fulfils most completely our ideal of a Local Lecture Center because of its relations with the Elementary Schools. On the appointed days, classes from several of the neighboring elementary schools gather in the auditorium of the High School to listen to the lectures.

For five years we have been giving lectures in these two centers. The annual attendance is close to 40,000 pupils. Our experience in these schools and the many appeals from other teachers to have the lectures given in their schools, convince us that the most effective expansion of the Museum's educational work would be the establishment of other local lecture centers. Such expansion cannot be undertaken without a larger staff and further appropriations.

III. STATUS OF THE MUSEUM'S FREE NATURE EDUCATION IN 1919

PROSPECTIVE RETRENCHMENT

At the beginning of the year 1919 the Department was faced with complete suspension of its work with the schools, because these services are entirely outside of the Museum's contract obligations with the City. Hence when drastic retrenchment was forced upon the Trustees by the reduction of the City's appropriation for maintenance, the cessation of these activities seemed to be the logical result. However, complete suspension of the relations with the schools which had been developed in the past sixteen years would have been so great a catastrophe that the Trustees were prevailed upon to authorize a limited or half-time educational program. Even under these conditions, the Circulating Nature Study Collections could be furnished to Manhattan schools only, and we were obliged to suspend the service to the schools of Brooklyn, Bronx, Queens, and Richmond. The lectures for school children at the Museum were reduced to half the usual number, while those given in the Local Lecture Centers and other schools were eliminated entirely.

SUPPORT FROM BOARD OF EDUCATION

President Osborn fully appreciated how serious such a curtailment of service would be for the pupils, the teachers, and the Museum, but felt that he could not ask the Trustees for further financial support for it. Accordingly he laid the full facts before President Somers and other members of the Board of Education at a luncheon given at the Museum on February 18, 1919, at which the Board of Education was represented by President Somers, Mrs. Ruth F. Russell, and Superintendent Gustave Straubenmüller; the Museum by President Osborn, Director Lucas, Curator

Sherwood and Doctor Fisher; and Professor Duggan was invited as the representative of the College of the City of New York. After the luncheon, an inspection was made of the Department of Public Education and its facilities for serving the schools. President Somers expressed the opinion that the Board of Education ought not to allow this work to stop and desired a statement of the additional cost of full-time service. By a careful readjustment of duties of the Staff, it was found that full service would cost only an additional $4,100, although the cost of the Department's entire work would be approximately $20,000. Later the Board of Education agreed to provide the $4,100 needed, and full service to schools was resumed on March first. This included the Circulating Nature Study Collections, Lectures at the Museum, Lectures in Local Lecture Centers, Lending of Lantern Slides, Education for the Blind, Coöperation with Public Libraries, and Exhibition Hall Instruction for Classes.

CIRCULATING NATURE STUDY COLLECTIONS

There has been no material change in the character of this work. The teaching collections have been furnished to teachers according to their requests. Not only have the regular nature study sets of birds, insects, woods, minerals, etc., been supplied, but frequently special selection of material has been made for some particular need of a school. For example, Indian garments and other objects have been lent for use in giving pageants. As usual, the collections have been delivered by Museum messengers and the schools of the distant Boroughs have been especially well supplied. The details of the distribution of the material have been in the hands of Mr. Herman A. Sievers, whose faithful and efficient service deserves special commendation. During the year, twenty cases with glass fronts and sides have been constructed, in which are to be placed small habitat groups, or other exhibits illustrating biological principles more completely than is practicable with specimens which can be handled. These will be added to the circulating series. The complete statistics of the Circulating Collections in Public Schools for the year are given in Appendix B.

LECTURES FOR SCHOOL CHILDREN

In accordance with the agreement with the Board of Education, full courses of lectures were given during the spring and fall, both at the Museum and in the Local Lecture Centers. Several lectures were also given at certain schools, while during Regents' Week, in January and in June, large numbers of students from Morris High, Evander Childs, and Washington Irving High School attended special lectures at the Museum, which were followed by laboratory work in the exhibition halls. The lectures dealt princi-

pally with geographical, historical, or industrial topics, and were especially adapted to the groups addressed. Several members of the Museum Staff have kindly participated in the delivery of these lectures, their special familiarity with the subjects thus increasing the interest of the pupils. The lectures given at the Museum number 57 and the attendance was 23,587, while 33 lectures were given in the schools in which 25,575 children were reached. Thus, all together 90 lectures have been given during the year, at which the total attendance was 49,162 pupils.

In addition to the lecture work for the schools, the usual courses of lectures to Members on Thursday evenings and the Science Stories for Children of Members on Saturday mornings have been arranged.

The complete list of Lectures to Pupils of the Public Schools will be found in Appendix C.

LENDING OF LANTERN SLIDES

The Board of Education renewed its special grant for the lending of slides to teachers, and this work has been continued throughout the year. The details of distribution have been efficiently managed by Miss Helen W. Russell, Miss Dorothy Van Vliet and Miss Grace E. Fisher. Naturally, it is only those schools that are equipped with lanterns and rooms that can be darkened which can make the most effective use of this material. In spite of this fact, 92 schools have been regularly supplied throughout the year. The number of separate loans was 1,470, while the total number of slides circulated was 80,468. The systematic use of the slides is indicated by the number of times a school borrows them. While the average number of loans per school is 11, the maximum of loans for a school was 143, P. S. No. 168, Manhattan, holding the record. A further fact of interest has been emphasized by the work of the year, namely, that teachers find the Lecture Sets with Manuscripts more useful than the general slide collections. More than 53% of the slides lent are in these sets. Six new subjects have been added recently to the series, namely,

Set 21—The History of our Country's Transportation, by Ann E. Thomas
Set 22—Through the Brazilian Wilderness with Colonel Roosevelt, by Geo. K. Cherrie
Set 23—Camera Hunting for Whales, by Roy C. Andrews
Set 24—The Search for Crocker Land, by Donald B. MacMillan
Set 25—Life in North Greenland, by Donald B. MacMillan
Set 26—Bird Life on an Antarctic Island, by Robert C. Murphy

Set 3—Our Forests and Their Uses, by George H. Sherwood—has been expanded and divided into two parts, namely,

Part 1, Set 3A—Our Forests and Their Uses—Forests and Methods of Lumbering

Part 2, Set 3B—Forest Uses and Products—Forest Protection and Conservation.

There are 27 prepared lectures, and as several of these have been duplicated to meet the needs of teachers, the total number of sets in circulation is 39.

The complete statistics of the Loans of Lantern Slides will be found in Appendix D.

EDUCATION FOR THE BLIND

Work for the blind, supported by the Jonathan Thorne Memorial Fund, has included science talks for the sight conservation classes of the public schools, an evening lecture for the adult blind, and loans to classes of natural history specimens and of relief globes.

Although the talks for the sight conservation classes were planned for both spring and fall, the spring course was suspended on account of the absence of Miss Thomas. In the fall, the work was taken up by Miss Ruth E. Crosby, and, in consultation with Miss Moscrip, Inspector of Classes for the Blind in the Public Schools, a course of ten subjects was arranged, including:

The Narrative of the World War	Miss Fisher
The Sources of War Materials	Dr. Fisher
How the Eskimo Live	Miss Crosby
Hiawatha's People	Miss Crosby
The Earth and Neighbor Worlds	Dr. Fisher
The Change of Seasons	Dr. Fisher
The Three Forms of Water	Miss Fisher
The Story of the Seashore	Miss Crosby
Where Furs Come From	Dr. Fisher
How Seeds Are Scattered	Miss Crosby

From this list, each teacher chose the subjects she wished her class to hear and the date on which she could most conveniently visit the Museum. Each class was instructed separately and the carfares of the pupils and guides were refunded when desired. The chief aim in giving these talks is to provide the pupils with adequate material which they can "see with their hands." In this way they gain a clear impression of many things which are difficult to describe and which are often wrongly conceived. For instance, the talk on the World War is illustrated by a large relief model showing the trenches and dugouts of a modern battlefield. A class of wide-awake high school girls, when shown this model, was amazed to find that a trench was hollowed from the ground. Without exception, each girl had had the impression that a trench was but a mound of earth like a hill.

STUDYING THE SUGAR MAPLE IN THE FORESTRY HALL

The statistics in Appendix E show that, during the fall, 27 talks were given to the blind, at which 245 pupils were present.

The sight conservation classes have made use of the regular natural history collections sent out by the Museum to the public schools. Many of the classes have also been supplied with large relief globes of the world, which the teachers recommend highly for their work in geography and history.

In the service to the adult blind, the Museum was enabled to extend a rare treat. In coöperation with the other agencies of the City working with and for the blind, the Museum invited the blind of the City to hear Sir Arthur Pearson, the blind Founder and Director of St. Dunstan's Hostel for Blinded Soldiers, London, England, in the auditorium of the Museum on February 5, 1919. More than 700 gathered to hear him and were greatly inspired by his address. Before the address, Sir Arthur examined the models, specimens, and other means employed by the Museum in giving instruction to the blind and expressed his appreciation of the work. One typical incident of the evening illustrates the value of this material in correcting misconceptions. While waiting for Sir Arthur's arrival, the blind were examining the specimens on exhibition. One blind boy of twenty or twenty-five was "looking" the owl over carefully and expressed astonishment that it had only two legs and asked where the other two were. He examined the swan and found only two. The assistant had some difficulty in convincing him that all birds have only two legs, not four. He said that the only animal he knew was a cat and since a cat had four legs, he supposed all animals had four.

LOANS TO PUBLIC LIBRARIES

Loan collections, illustrating different phases of geography and natural history, have been in constant circulation among the branch libraries of the city. These collections include Museum specimens, models, photographs, labels, and maps, and were prepared largely through the generosity of the Department of Anthropology in furnishing both material and information. They are delivered to the libraries by the Museum messenger and are there exhibited for from one to two months. Their purpose is to stimulate an interest in books on geography, history and nature study and to increase coöperation between the Libraries, the Public Schools and the Museum. The exhibits are seen not only by the casual observer, but are studied by classes from nearby schools, and often serve as illustrative material for the librarian's story hour.

There are seventeen of these collections in regular circulation. They have been furnished to fifteen libraries, in which more than 104,567 have seen them.

In two instances, further coöperation was extended by giving an illustrated lecture at the library.

The complete statistics of the Circulating Collections in Public Libraries are given in Appendix F.

EXHIBITION HALL INSTRUCTION

The instruction in the exhibition halls is the equivalent of indoor field work and laboratory instruction. As often as was requested, members of the Department Staff met classes from the city or suburban schools, Boy Scouts, Camp Fire Girls, men's and women's clubs, and individuals, and conducted them through the exhibition halls, calling attention to the principal exhibits and their meaning. The total number annually served in this way is considerable, and the work helps to spread the educational influence of the Museum.

The regular staff members have been ably assisted throughout the year by Miss Annie E. Lucas, who as a volunteer assistant has been very helpful in conducting wounded service men through the Museum.

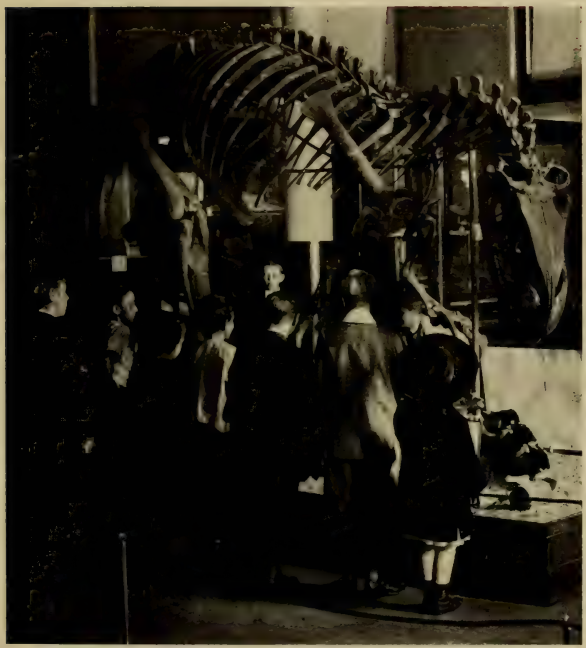
PHOTOGRAPHIC SERVICE

General education has been advanced by the large amount of photographic work done. Our two photographers have been fully occupied in making illustrations for *Natural History,* in supplying prints to the Publicity Committee, in making photographs for the scientific publications, and in preparing large numbers of slides for lectures and for sales. The reference series of photographs and negatives has been increased not only by the material produced in the Museum, but by large series of negatives from expeditions and on deposit.

CHANGES IN STAFF

In October, Miss Ann E. Thomas, who had been a member of the Staff since 1914, resigned to accept a position with the Bureau of Industrial Research. Miss Ruth E. Crosby, a graduate of Wellesley, was appointed to this vacancy and has been placed in charge of the work for the blind and the library loans and also assists in the lecture and docent work. Early in the year Miss Virginia B. McGivney resigned as Slide Librarian, and in November Miss Grace E. Fisher was appointed in her stead. During the interim, this branch of the Museum's work was in charge of Miss Dorothy Van Vliet as Acting Slide Librarian and was efficiently conducted by her and Miss Helen W. Russell.

As usual the principal administrative burdens of the Department have fallen upon the shoulders of the Associate Curator, Dr. G. Clyde



IN THE HALL OF DINOSAURS

Fisher, whose service deserves high commendation. It is also a pleasure to note that the fine spirit of coöperation that pervades the Department has contributed in large measure to the success of the year's work. The following diagram shows the organization and functions of the Department.

OUTSIDE ACTIVITIES OF STAFF

The calls upon staff members for service outside of Museum work are frequent, and it is impossible to answer them all. Dr. Fisher, however, has contributed generously of his time and experience. During his vacation, he conducted, under the auspices of the National Association of Audubon Societies, the course in Bird Study at the University of Florida. Besides lecturing before a number of private schools, clubs, and educational organizations, he addressed the Teachers' College Alumni Association at Columbia; the New Jersey Science Teachers' Association at Trenton, and the General Science Club of New England at Boston, on "The Use of Motion Pictures in Teaching Biology." He also participated in meetings of the Woodcraft League and has recently been elected to the Council of Guidance of the League.

The Curator and Associate Curator have undertaken, jointly, the preparation of the nature study section of the Girl Scouts Manual, which is to be published early in 1920. The major part of this work has been done by Dr. Fisher.

ACKNOWLEDGMENTS

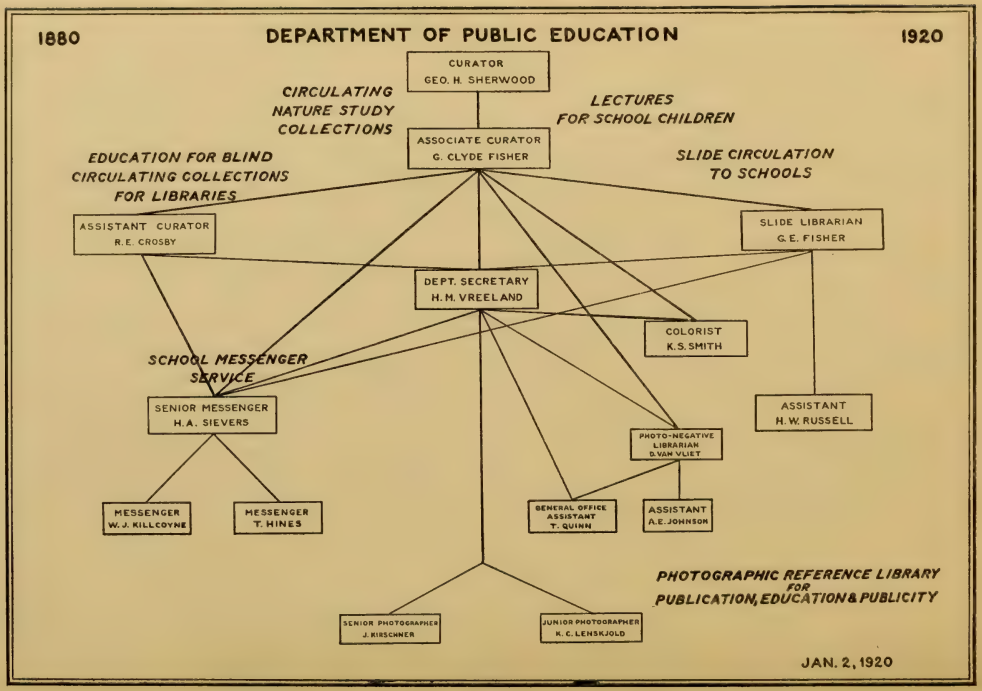
We desire to express our appreciation of the practical assistance which we have received from many sources. Motion picture films have been loaned by the State Conservation Commission, through Mr. Clinton G. Abbott; by the General Electric Company, through Mr. C. F. Bateholts; by Mr. Lee Keedick; by the American-Scandinavian Foundation, and by Prizma, Inc. Photographic material was generously furnished by Brown Brothers and by H. Martens & Co., and a map for copy by H. J. Yurman, Furrier. This friendly coöperation has been very helpful in advancing the educational work of the institution.

IV. PLANS FOR FUTURE DEVELOPMENT

The experience of the past few years has pointed out three lines of development of the Museum's school work which are of primary importance.

LOCAL LECTURE CENTERS

The first is the extension of the Local Lecture Center plan. As already stated, for several years the Museum has been conducting lectures in three centers, of which that at the Washington Irving High School approaches the ideal. Here is a centrally located



ORGANIZATION OF THE DEPARTMENT OF PUBLIC EDUCATION

school with splendid equipment, to which come classes from the elementary schools of the vicinity for lectures given by members of the Museum staff.

The dissolution of the New York street car system and the increasing cost of fares make it more difficult than ever to bring the school children in remote districts to the Museum for lectures. It has therefore become increasingly important that the local lecture center idea should be extended so that a greater number of children may profit by the Museum's lecture service. There should be established at least ten such lecture centers. The extension of this work we hope to take up immediately.

COÖPERATION WITH OTHER AGENCIES

The second line of development is greater coöperation with existing agencies for educational work in the city, where the Museum does not take the initiative. We refer to the work of such organizations as the School Nature League, initiated and carried on under the inspired leadership of Mrs. John I. Northrop. This organization with its nature rooms in the schools is doing a great service in bringing to the children a realization of nature and what nature means. This is a work that we wish might have been inaugurated by The American Museum of Natural History, because of our pride in the Museum. The work is being well done, however, and the American Museum is glad to lend its influence and resources of material to the furthering of this movement. In a similar manner the Museum is ready to assist in the larger program for visual instruction being developed by Director Crandall of the Bureau of Visual Instruction. Again this is a case where the Museum strongly desires to get behind and help push, its institutional spirit being satisfied merely in a furtherance of good work.

EXTENSION TO TRAINING SCHOOLS FOR TEACHERS

The third plan of development is the new feature of the Museum's educational program and is perhaps the most fundamental and important of all plans so far attempted. It consists in carrying a knowledge of the Museum's resources to the student teachers in the training schools. There are three of these schools in Greater New York (exclusive of Hunter College) under the direction of the Board of Education, for the development of teachers. In these a thousand to fifteen hundred young women are undergoing intensive training which will fit them to be teachers.

The idea of the Museum especially coöperating with the training schools was originally suggested by Dr. Gustave Straubenmüller, Associate Superintendent in charge of these schools, and recently the Museum has given a series of lectures at the New York Training

School for Teachers. The results have pointed out the opportunity for the Museum to render further practical service to the cause of education by giving a series of carefully thought-out lectures to the student teachers in all the training schools, the purpose being to bring to their attention through new channels the biological principles upon which our whole social fabric is based, to give a greater breadth of vision, and specifically to make them intimately acquainted with the Museum's methods and facilities for service.

We would make these young teachers at the beginning of their work realize by personal experience the interest and value of what the American Museum can give and make them know that they can always get merely for the asking this background for their geography, history or science classes.

By such a plan the Museum will be contributing to the source of successful education in New York City.

APPENDIX A.

GENERAL SUMMARY OF STATISTICS FOR 1919

CIRCULATING NATURE STUDY COLLECTIONS IN THE PUBLIC SCHOOLS:

Number of Collections in Use	668
Number of Schools Supplied	385
Number of Pupils Who Studied the Collections	860,992

LECTURES TO PUPILS OF THE PUBLIC SCHOOLS:

Number of Lectures at Museum	57	Attendance,	23,587
Number of Lectures in the Schools	33	"	25,575
Total Number of Lectures for Public School Pupils	90	"	49,162
LECTURES TO PRIVATE SCHOOLS AND ORGANIZATIONS	43	"	17,366
Grand Total of Lectures	133	"	66,528

LENDING OF LANTERN SLIDES:

	Number of Borrowers	Number of Loans	Number of Slides Circulated
Public Schools	92	1,032	58,107
Other Organizations	72	438	22,361
Total	164	1,470	80,468

EDUCATION FOR THE BLIND:

Number of Talks for Blind Children	27	Attendance,	297
Number of Talks for Adult Blind	1	"	710
	28		1,007

CIRCULATING COLLECTIONS IN PUBLIC LIBRARIES:

Number of Collections in Circulation	17
Number of Libraries Supplied	15
Number of Children and Adults Using Collections	104,567
Total Number Reached by Museum Extension in 1919	1,033,094

APPENDIX B.

CIRCULATING NATURE STUDY COLLECTIONS IN THE PUBLIC SCHOOLS

SCHOOLS SUPPLIED:

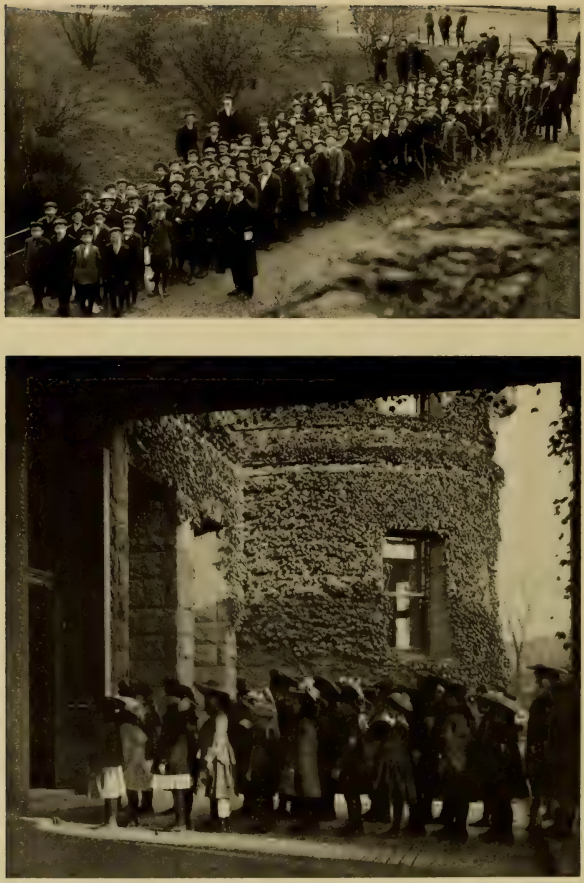
Manhattan	113
Brooklyn	121
Queens	61
Richmond	24
Bronx	37
Private Schools	16
Independent Schools	13
Total Number of Schools	385

PUPILS STUDYING COLLECTIONS:

Collections	*Studied by*
Robin Set	97,792
Bluebird	90,571
Tanager	95,807
Owl	103,352
Blue Jay	94,915
Special Insects	44,600
Insect Set	48,500
Economic Insects	10,265
Woods	50,316
Minerals and Rocks	19,337
Sponges and Corals	26,143
Mollusks	37,792
Echinoderms and Worms	15,985
Crabs	3,210
Small Mammals	27,187
Public Health Charts	26,100
Special Collections	69,120
Total Number of Pupils	860,992

COMPARATIVE TABLE FOR FIVE YEARS:

	1915	1916	1917	1918	1919
No. of Collections	671	704	712	629	668
No. of Schools Supplied	473	439	446	419	385
No. of Pupils Using Collections	1,238,581	1,118,322	1,075,076	790,346	860,992



SCHOOL CHILDREN AT THE MUSEUM
Awaiting Their Turn to Enter for a Lecture

APPENDIX C.

LECTURE COURSES 1919

LECTURES TO PUPILS OF THE PUBLIC SCHOOLS

LECTURES IN THE MUSEUM AUDITORIUM

TWELVE LECTURES ON

THE INDUSTRIES OF THE UNITED STATES

Date	*Subject*	*Lecturer*	*Attendance*
March 17	THE STORY OF A PIECE OF COAL	Dr. Fisher	163
March 26	OUR FORESTS AND THEIR USES	Mr. Sherwood	199
April 8	USEFUL AND INTERESTING FISHES	Mr. Nichols	93
April 22	THE STORY OF COTTON, SILK, AND WOOL	Dr. Fisher	390
April 29	LIFE IN THE FAR WEST	Mr. Granger	430
May 16	FARMING IN THE MIDDLE WEST	Dr. Fisher	472
October 14	OUR NEWEST POSSESSIONS—THE AMERICAN VIRGIN ISLANDS	Mr. Miner	221
October 22	SOURCES OF OUR CLOTHING	Dr. Fisher	687
October 29	THE RELATION OF FISHERIES TO THE GEOGRAPHY OF THE OCEAN	Mr. Nichols	166
November 12	LIFE IN THE FAR WEST	Mr. Granger	415
November 17	OUR FORESTS AND THEIR USES	Mr. Sherwood	386
December 5	OUR WATERWAYS AND THEIR PROTECTION	Mr. Sherwood	312
	Total Attendance for 12 Lectures		3,934

TEN LECTURES ON

NATURAL HISTORY

Date	*Subject*	*Lecturer*	*Attendance*
March 18	WILD ANIMALS NEAR HOME	Dr. Fisher	146
March 31	STORY OF THE WINDS	Mr. Sherwood	330
April 1	WILD BIRDS OF NEW YORK CITY	Mr. Chubb	325
April 28	WILD FLOWERS OF SPRING (Canceled on account of holiday)	Dr. Fisher	
May 2	THE KINGDOM OF THE TIDES	Mr. Miner	138
May 6	WITH JOHN BURROUGHS AT SLABSIDES (Canceled on account of holiday)	Dr. Fisher	
October 17	HOW LIFE BEGINS	Dr. Fisher	292
October 24	THE WONDERFUL WORK OF WATER	Mr. Sherwood	195
October 31	WITH JOHN BURROUGHS AT SLABSIDES AND AT WOODCHUCK LODGE	Dr. Fisher	288
November 7	OUR WINTER BIRDS	Mr. Rogers	496
November 14	WILD LIFE AND SCENERY OF THE CATSKILLS	Mr. Chubb	177
November 21	HUNTING FOR MONSTERS OF THE PAST	Mr. Granger	85
	Total Attendance at 10 Lectures		2,472

TWELVE LECTURES ON

EARLY HISTORY OF AMERICA

Date	*Subject*	*Lecturer*	*Attendance*
March 21	EARLY HISTORY OF NEW YORK	Mr. Miner	1,280
March 24	EXPLORATION OF THE WEST (No school on account of soldiers' parade)	Mr. Rogers	118
April 4	THE GROWTH OF NEW YORK CITY	Mr. Miner	1,063

Date	*Subject*	*Lecturer*	*Attendance*
April 25	The Song of Hiawatha	Miss Thomas	159
May 5	Methods of Transportation—Past and Present	Dr. Fisher	887
May 13	Colonial and Revolutionary Days in New England	Mr. Miner	920
October 20	Early History of New York	Mr. Miner	765
November 3	Colonial and Revolutionary Days in New England	Mr. Miner	854
November 10	Exploration of the West	Mr. Rogers	305
November 24	The Growth of New York City	Mr. Miner	338
December 3	The Great Housebuilders of the Southwest	Mr. Nelson	185
December 10	Methods of Transportation—Past and Present	Miss Crosby	340
	Total Attendance for 12 Lectures		7,214

TWELVE LECTURES ON

GEOGRAPHY

Date	*Subject*	*Lecturer*	*Attendance*
March 28	Travels in South America	Mr. Boyle	462
April 7	Mexico and Central America	Mr. Rogers	640
April 21	Our Newest Possessions—the American Virgin Islands	Mr. Miner	580
May 9	The Panama Canal	Dr. Fisher	915
May 12	The Earth and Neighbor Worlds	Dr. Fisher	490
May 19	Our Waterways and Their Protection	Mr. Sherwood	239
October 15	Eskimo Family Life, Hunting and Travel	Dr. Hovey	139
October 27	Mexico and Central America	Mr. Rogers	976
November 5	South America	Mr. Noble	660
November 19	The Panama Canal	Dr. Fisher	556
December 1	African Desert and Jungle	Mr. Chapin	300
December 8	Travels in Western Europe	Mr. Chapin	596
	Total Attendance at 12 Lectures		6,553
	Total Attendance at 46 Regular Lectures given in the Museum Auditorium in 1919		20,173

REGENTS' WEEKS

JANUARY, 1919, AND JUNE, 1919

Date	*Subject*	*School*	*Lecturer*	*Attendance*
January 21	Forestry	Washington Irving H. S.	Dr. Fisher	201
January 22	How Life Begins	Washington Irving H. S.	Dr. Fisher	354
January 22	Birds and Their Relation to Field, Forest and Garden	Morris High School	Dr. Fisher	245
January 22	Forestry	Morris High School	Mr. Sherwood	437
January 23	Birds	Evander Childs H. S.	Mr. Mann	115
June 17	Forestry	Washington Irving H. S.	Dr. Fisher	321
June 18	Birds	Evander Childs H. S.	Mr. Mann	252
June 18	Economic Importance of Birds	Morris High School	Dr. Fisher	300
June 18	How Life Begins	Morris H. S. Annex	Dr. Fisher	132
June 18	How Life Begins	Washington Irving H. S.	Dr. Fisher	270
	Total Attendance at 10 Lectures given in Museum Auditorium during Regents' Weeks			2,627

MISCELLANEOUS LECTURES IN MUSEUM TO CHILDREN OF PUBLIC SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS

Date	*Subject*	*School*	*Lecturer*	*Attendance*
April 5	BIRDS IN THEIR RELATION TO FIELD, FOREST AND GARDEN	Garment Makers' Union	Dr. Fisher	30
April 22	SHEEP SHEARING IN NEW MEXICO	Ethical Culture School	Dr. Fisher	193
July 18	TALK ON DARWIN HALL	Miss Stone's class from Hunter College Summer School	Mr. Miner	14
November 20	HOW LIFE BEGINS	Prof. Neale's class from Teachers' College	Dr. Fisher	45
December 11	FORESTRY	DeWitt Clinton H. S.	Mr. Sherwood	787
December 13	EVOLUTION	Miss Stone's class from Teachers' College	Mr. Miner	68
December 17	HOW LIFE BEGINS	Veltin School	Dr. Fisher	135
	Total Attendance at 7 Lectures			1,272

LECTURES AT LOCAL SCHOOL CENTERS

NINE LECTURES IN THE AUDITORIUM OF THE WASHINGTON IRVING HIGH SCHOOL FOR THE PUPILS OF THE ELEMENTARY SCHOOLS IN THE VICINITY

Date	*Subject*	*Lecturer*	*Attendance*
April 28	OUR FORESTS AND THEIR USES (Canceled on account of holiday)	Mr. Sherwood	
May 12	TRAVELS IN SOUTH AMERICA	Mr. Boyle	500
May 26	WITH JOHN BURROUGHS AT SLABSIDES	Dr. Fisher	900
June 9	THE PANAMA CANAL	Dr. Fisher	500
June 16	THE STORY OF THE WINDS	Mr. Sherwood	75
September 22	WILD FLOWERS OF AUTUMN	Dr. Fisher	800
October 27	WITH JOHN BURROUGHS AT SLABSIDES	Dr. Fisher	900
November 10	THE PANAMA CANAL	Dr. Fisher	1,000
November 24	OUR FORESTS AND THEIR USES	Mr. Sherwood	1,000
December 8	SONG OF HIAWATHA	Miss Slater	600
	Total Attendance at 9 Lectures		6,275

THIRTEEN LECTURES AT P. S. No. 64, MANHATTAN

Date	*Subject*	*Lecturer*	*Attendance*
April 24	OUR WATERWAYS AND THEIR PROTECTION (Given Twice)	Mr. Sherwood	1,800
May 1	EARLY HISTORY OF NEW YORK	Mr. Miner	1,000
May 2	FARMING IN THE MIDDLE WEST (Given Twice)	Dr. Fisher	1,350
May 9	OUR NEWEST POSSESSIONS	Mr. Miner	1,000
May 16	LIFE IN THE FAR WEST (Given Twice)	Mr. Granger	1,500
December 2	OUR NEWEST POSSESSIONS	Mr. Miner	800
December 10	WITH JOHN BURROUGHS AT SLABSIDES (Given Twice)	Dr. Fisher	1,800
December 23	AFRICAN DESERT AND JUNGLE (Given Twice)	Mr. Chapin	1,800
	Total Attendance at 13 Lectures		11,050

Nine Lectures at P. S. No. 42, Bronx

Date	*Subject*	*Lecturer*	*Attendance*
April 23	Wild Animals Near Home	Dr. Fisher	900
April 30	With John Burroughs at Slabsides	Dr. Fisher	750
May 14	Our Forests and Their Uses	Mr. Sherwood	600
May 21	Earth and Neighbor Worlds	Dr. Fisher	700
June 11	Exploration of the West (Canceled on account of Boy Scouts' Parade)	Mr. Rogers	
October 1	Wild Flowers of Autumn	Dr. Fisher	900
October 29	Mexico and Central America	Mr. Rogers	900
October 30	The American Virgin Islands	Mr. Miner	900
November 5	Bird Neighbors and Their Homes	Dr. Fisher	700
December 3	Birds in Their Relation to Field, Forest, and Garden	Dr. Fisher	900
	Total Attendance at 9 Lectures		7,250
	Total Attendance at 26 Lectures given in the Schools in the Regular Course for 1919		24,575

MISCELLANEOUS LECTURES AT PUBLIC SCHOOLS

Date	*Subject*	*School*	*Lecturer*	*Attendance*
March 27	Roosevelt and Burroughs in Yellowstone Park	Roosevelt Club, Boys' High School	Dr. Fisher	400
May 2	Birds in Their Relation to Field, Forest and Garden	Far Rockaway H. S.	Dr. Fisher	600
	Total Attendance at 2 Outside Public School Lectures			1,000

LECTURES AT EDUCATIONAL INSTITUTIONS OTHER THAN PUBLIC SCHOOLS

By Dr. G. Clyde Fisher

Date	*Subject*	*School*	*Attendance*
January 8	Travels in Our Own Country	Buckley School	100
February 3	John Burroughs	Men's Club in Brooklyn	100
February 21	Wild Animals Near Home	Franklin School	150
February 22	Use of Motion Pictures in Teaching Biology	Teachers' College Alumni Association	50
March 3	Theodore Roosevelt and John Burroughs	New York Bird and Tree Club	50
March 24	How Life Begins	Colony Club	200
March 26	Enemies of Trees	Rye Garden Club	25
April 9	A Naturalist's Rambles in Florida	Brooklyn Institute of Arts and Sciences	700
May 3	Bird Neighbors and Their Homes	Buffalo Children's Club	200
May 7	John Burroughs	Buckley School	100
May 17	Use of Motion Pictures in Teaching Biology	New Jersey Science Teachers' Association	100
June 7	Use of Motion Pictures in Teaching Biology	General Science Club of New England	100
July 1 to 28	Conducting Course in Bird Study at University of Florida, Dr. Fisher delivered 5 illustrated lectures on Birds.		

Date	Subject	School	Attendance
August 16	Birds in Their Relation to Field, Forest and Garden	"The Pines," Branchville, N. J.	50
September 13	A Naturalist's Rambles in Florida	New York Botanical Garden	100
October 1	Wild Flowers of Autumn	Brooklyn Institute	700
October 16	John Burroughs	New York Clinical Club	25
October 25	Wild Animals Near Home	Brooklyn Institute	800
November 22	On Identifying Trees in Winter	Woodcraft League	50
November 30	Baby Birds and Their Ways	Parish House, Douglaston	100
December 1	Bird Neighbors and Their Homes	Huntington Branch of Brooklyn Institute	300
December 8	John Burroughs	Princeton Bird Club	150
	Total Attendance at 21 Lectures		4,150

LECTURES FOR MEMBERS

Date	Subject	Lecturer	Attendance
February 27	Big Game in Africa	C. E. Akeley	897
March 6	The Forest and Wild Life of New York State	G. D. Pratt	468
March 13	Australia	H. E. Gregory	544
March 20	A Naturalist's Rambles in Florida	G. C. Fisher	555
November 6	The Canadian Alps	B. M. DeCou	996
November 20	Our Animal Allies in the Great War	E. H. Baynes	559
December 4	Chile and Her Resources	F. M. Chapman	570
December 18	The Friendly Arctic	Vilhjalmur Stefansson	754
	Total Attendance at 8 Lectures		5,343

LECTURES FOR CHILDREN OF MEMBERS

Date	Subject	Lecturer	Attendance
March 1	Wigwam Stories	Alanson Skinner	1,151
March 15	Animal Work and Play	R. L. Ditmars	972
March 29	The Story of the Winds	G. H. Sherwood	604
April 12	African Jungle Trails	C. E. Akeley	929
November 8	Seaside Stories	Roy W. Miner	995
November 22	Nature's Ways of Scattering Seeds	G. C. Fisher	898
December 6	Animals of the Ice and Snow	G. H. Sherwood	1,109
December 20	The Songs of Birds	C. C. Gorst	730
	Total Attendance at 8 Lectures		7,388

SUMMARY

	No. of Lectures	Attendance
Regular Lectures for school children in Museum	46	20,173
Lectures in Museum during Regents' Weeks	10	2,627
Special Lectures in Museum to children of public schools and other educational institutions	7	1,272
Lectures given at schools	33	25,575
Lectures given at educational institutions other than public schools.	21	4,150
Lectures in Members' Courses	8	5,343
Lectures in courses for Children of Members	8	7,388
Grand Total of Attendance at 133 Lectures		66,528

APPENDIX D.

LENDING OF LANTERN SLIDES

Public Schools Using Lantern Slides

Borough of Manhattan	Borough of Brooklyn	Borough of The Bronx	Borough of Queens
N. Y. Training School	Girls' H. S.	Morris H. S.	Bryant H. S.
DeWitt Clinton H. S.	Boys' H. S.	Evander Childs High School	Newtown H. S.
Julia Richman H. S.	Manual Training H. S.		
Washington Irving H. S.	Erasmus Hall H. S.		
H. S. of Commerce	Bushwick H. S.		
Stuyvesant H. S.	Bay Ridge H. S.		P.S. 4
Hunter High School	P.S. 12	P.S. 2	6
Speyer School	22	3	27
P.S. 2 62	33	5	31
4 64	40	10	83
8 70	73	11	84
10 74	75	23	86
20 83	82	27	91
21 85	85	37	
30 87	93	40	10
34 88	95	42	
38 95	122	43	
40 96	126	45	
46 103	140	50	
120	141	51	
132	143	54	
147	149	55	
157	168		
166	170		
168	178		Borough of Richmond
169			P.S. 3
171			
38	25	18	1

NUMBER OF LOANS AND SLIDES CIRCULATED

	No. of Schools	*No. of Loans*	*No. of Slides Circulated*
Manhattan	38	515	26,752
Bronx	18	239	14,235
Brooklyn	25	177	11,104
Queens	10	100	5,945
Richmond	1	1	71
	92	1,032	58,107

BORROWERS OTHER THAN PUBLIC SCHOOLS

No. of Borrowers	*No. of Loans*	*No. of Slides Loaned*
72	438	22,361

COMPARATIVE TABLE OF NUMBER OF LANTERN SLIDES CIRCULATED

	1915	1916	1917	1918	1919
No. of Public Schools Borrowing Slides	35	63	84	102	92
No. of Other Borrowers	16	30	39	30	72
Total Number of Borrowers	51	93	123	132	164
No. of Loans	196	680	935	1,084	1,470
No. of Slides Circulated	11,929	38,912	63,111	72,287	80,468

APPENDIX E.

EDUCATION FOR THE BLIND

MUSEUM TALKS FOR SCHOOL CHILDREN (November and December)

	Blind	*Guides*	*Teachers*
P. S. No. 6 Manhattan (two classes)			
HIAWATHA'S PEOPLE	21	3	2
P. S. No. 17 Manhattan (two classes)			
HIAWATHA'S PEOPLE	16	1	2
THE NARRATIVE OF THE WORLD WAR	19	1	2
P. S. No. 21 Manhattan			
SOME SOURCES OF WAR MATERIALS	11		1
P. S. No. 54 Manhattan			
THE EARTH AND NEIGHBOR WORLDS	5	3	1
THE NARRATIVE OF THE WORLD WAR	6	3	1
P. S. No. 57 Manhattan			
THE NARRATIVE OF THE WORLD WAR	7		1
SOME SOURCES OF WAR MATERIALS	10		1
P. S. No. 84 Manhattan			
SOME SOURCES OF WAR MATERIALS	7	1	1
THE NARRATIVE OF THE WORLD WAR	11		1
CHANGE OF SEASONS	6		1
P. S. No. 89 Manhattan			
HOW THE ESKIMO LIVE	10		1
P. S. No. 102 Manhattan			
HIAWATHA'S PEOPLE	8		1
HOW SEEDS ARE SCATTERED	9		1
THE EARTH AND NEIGHBOR WORLDS	4		1
P. S. No. 110 Manhattan			
THE EARTH AND NEIGHBOR WORLDS	6	1	1
THE NARRATIVE OF THE WORLD WAR	5	4	1
P. S. No. 119 Manhattan			
HIAWATHA'S PEOPLE	10		1
THE THREE FORMS OF WATER	10		1
THE NARRATIVE OF THE WORLD WAR	10		1
CHANGE OF SEASONS	10		1
HOW SEEDS ARE SCATTERED	8		1
P. S. No. 166 Manhattan			
SOME SOURCES OF WAR MATERIALS	11		1
THE NARRATIVE OF THE WORLD WAR	8		1
P. S. No. 45 Bronx			
HOW SEEDS ARE SCATTERED	8	1	1
Wadleigh High School			
THE THREE FORMS OF WATER	3	2	
THE NARRATIVE OF THE WORLD WAR	6	4	
Total	245	24	28

Number of Talks.....27 Total Attendance..... 297

Lecture for Adult Blind (February 5, 1919)
Address by Sir Arthur Pearson Attendance..... 710

Total 1,007

APPENDIX F.

CIRCULATING COLLECTIONS IN PUBLIC LIBRARIES

	No. Children	*No. Adults*
AGUILAR BRANCH LIBRARY		
Primitive Arms and Armor	400	10
CATHEDRAL BRANCH		
Indians of the Southwest	253	
Japan	126	7
The Philippines	483	12
Primitive Arms and Armor	187	
	1,049	19
FORT WASHINGTON BRANCH		
Dolls from Many Lands	900	10
Mexico	300	30
	1,200	40
GEORGE BRUCE BRANCH		
Indians of the Southwest	1,209	25
Dolls from Many Lands	1,307	35
The Eskimo	2,000	30
	4,516	90
HAMILTON FISH PARK BRANCH		
Japan	5,551	60
Birds	1,571	45
Mexico	2,349	52
Indians of the Plains	3,404	12
Siberia	1,196	5
	14,071	174
HARLEM BRANCH		
South America	200	25
HIGHBRIDGE BRANCH		
Birds	1,543	75
Mammals	889	
Indians of the Southwest	283	40
	2,715	115
MELROSE BRANCH		
Dolls from Many Lands	350	10
Indians of the Plains	450	10
Corals, Shells and Sponges	1,200	10
	2,000	30
MOTT HAVEN BRANCH		
Indians of the Southwest	642	20
RIVINGTON STREET BRANCH		
The Eskimo	218	104
SEWARD PARK BRANCH		
Indians of the Southwest	471	32
WEBSTER BRANCH		
Siberia	9,000	200
Japan	8,000	200
	17,000	400

	No. Children	*No. Adults*	
WEST 40TH STREET BRANCH			
Indian Pottery	12,870	65	
Dolls from Many Lands	10,860	12	
Basketry	5,000	26	
Eskimo	181	10	
Two Philippine Boats	5,000	10	
Indian Pottery	500		
	34,411	123	
WOODSTOCK BRANCH			
Small Mammals	20,400	50	
67TH STREET BRANCH			
Small Mammals	1,500	28	
Bird Neighbors	1,400	45	
Indians of the Eastern Woodlands	876	16	
	3,776	89	
LECTURES GIVEN AT LIBRARIES—HAMILTON FISH PARK BRANCH			
ASTRONOMY.....Dr. Fisher		75	
INDIANS OF THE PLAINS..Dr. Goddard	11	2	
Total Attendance at Exhibits and Lectures..	103,169	1,398	
Grand Total			104,567

APPENDIX G.

LIST OF SCHOOLS AND OTHER INSTITUTIONS WITH WHICH THE MUSEUM HAS COOPERATED IN 1919

Public Schools of Greater New York

ELEMENTARY AND GRAMMAR SCHOOLS

Manhattan	135	Brooklyn	120
Bronx	41	Queens	60
		Richmond	24

HIGH SCHOOLS

Manhattan	9	Brooklyn	7
Bronx	3	Queens	6

TRAINING SCHOOLS

Manhattan
- New York Training School for Teachers
- Model School, Hunter College

Queens
- Jamaica Training School for Teachers

CORPORATE AND INDUSTRIAL SCHOOLS

- Avenue B School
- Child Welfare Society
- Children's Aid Society
- East 88th Street School
- East 109th Street School
- Industrial Schools Nos. 8, 10, 11, 12
- Jones Memorial School
- School for Crippled Children
- Sixth Street School
- West 38th Street School

University of the State of New York

DIVISION OF VISUAL INSTRUCTION

Parochial Schools

- All Hallows Institute
- Convent of the Good Shepherd
- Holy Cross School
- Holy Name School
- Lady of Good Counsel
- Lady of Mercy
- La Salle Institute
- Loyola School
- Our Lady of Lourdes
- Parochial School No. 265
- St. Catherine's School
- St. Gabriel's School
- St. Jerome's School
- St. Joseph's School
- St. Matthew's Parish School
- St. Michael's Home
- St. Philip Neri's School
- St. Thomas the Apostle School

Private Schools

Berkeley-Irving School
Brearley School
Buckley School
Chandor School
Collegiate School for Boys
DeLancey School for Girls
Ethical Culture School
Finch School
Franklin School
Friends School
Lawrence Smith School
Lehmann-Leete School
Lincoln School
Marquand School
Packer Collegiate Institute
Pratt Institute
School of Natural Development
Staten Island Academy
Veltin School
Woodmere School

Public Schools Outside of Greater New York

ELEMENTARY — HIGH

New York State

No. 21, Yonkers
Great Neck, L. I.
Irvington
Tuckahoe

New Jersey

Edgewater
Montclair State Normal
Pompton Plains
Roselle
State Street, Hackensack
Trenton

Private Schools Outside of Greater New York

New York State

Brantwood Hall, Bronxville
Brookwood School, Katonah
The Castle, Tarrytown

Connecticut

Rosemary Hall, Greenwich

Colleges and Universities

New York City

College of the City of New York
Columbia University
Hunter College
New York University
Teachers College

Medical Schools and Hospitals

Bellevue Hospital
Hahnemann Hospital
Presbyterian Hospital

Schools of Art and Design

Beaux Arts
School Art League
Skidmore School of Arts

Libraries

Branches of the New York Public Library

Aguilar
Cathedral
Fort Washington
George Bruce
Hamilton Fish Park
Harlem
Highbridge
Melrose
Mott Haven
Rivington
Seward Park
67th Street
Webster
West 40th Street
Woodstock

New York State

Library New York State College for Teachers

Museums

Greater New York

Brooklyn Museum
Children's Museum, Brooklyn
Metropolitan Museum of Art
New York Botanical Garden
Staten Island Museum

New Jersey

New Jersey State Museum
Newark Museum

Miscellaneous Educational Organizations

Americanization Classes
Bible Training School, Newark, N. J.
Boy Scouts
Chapel of the Comforter
Church of Sea and Land
Church of the Covenant
Emanuel Sisterhood
Girl Scouts
Harlem House
Henry Street Settlement
Hudson Guild
Hunt's Point Church
Joint Board of Sanitary Control
Ladies' Waist and Dressmakers' Union
Mannhard Neighborhood House
N. Y. Catholic Protectory
N. Y. Institute for the Education of the Blind
Park Department
Randall-McIvor School
Richmond Hill Settlement
Standard Oil Co.
Union School of Religion
Woodcraft League
Y. M. C. A.
Y. W. C. A.

Nature Study Leagues and Biological Associations

Brooklyn Institute of Arts and Sciences
Buffalo Children's Club
General Science Club of New England
New Jersey Science Teachers' Association
New York Bird and Tree Club
Princeton Bird Club
Rye Garden Club
School Garden Association
School Nature League

Universities, Scientific Institutions, and Other Organizations Receiving Free Distribution of Bacterial Cultures from the Department of Public Health of the Museum in 1919

COLLEGES AND UNIVERSITIES

Allegheny College, Meadville, Pa.
Amherst College, Amherst, Mass.
Barnard College, New York City
Bates College, Lewiston, Me.
Bowdoin College, Brunswick, Me.
Brown University, Providence, R. I.
Bryn Mawr College, Bryn Mawr, Pa.
Carnegie Institute of Technology, Pittsburgh, Pa.
Clark College, Worcester, Mass.
Clemson Agricultural College, Clemson College, S. C.
College of Pharmacy (Columbia), New York City
College of the City of New York, New York City
Cornell University, Ithaca, N. Y.
Creighton University, Omaha, Neb.
Dakota Wesleyan University, Mitchell, S. Dak.
Dalhousie University, Halifax, N. S.
Fairmount College, Wichita, Kansas
Florida State College for Women, Tallahassee, Fla.
Fordham University, New York City
George Washington University, Washington, D. C.
Goucher College, Baltimore, Md.
Hamilton College, Clinton, N. Y.
Hunter College, New York City
Idaho Technical Institute, Pocatello, Idaho
Illinois Wesleyan University, Bloomington, Ill.
Imperial University of Tokio, Tokio, Japan
Industrial Institute and College, Columbia, Miss.
Iowa State College, Ames, Iowa
Jamestown College, Jamestown, N. Dak.
Kansas State Agricultural College, Manhattan, Kan.
Laval University, Montreal, Canada
Leland Stanford Junior University, Stanford University, Calif.
Louisiana State University, Baton Rouge, La.
Loyola University, Chicago, Ill.
Macdonald College, Quebec, Canada
Marietta College, Marietta, Ohio
Massachusetts Agricultural College, Amherst, Mass.
Massachusetts Institute of Technology, Cambridge, Mass.
Michigan Agricultural College, East Lansing, Mich.
Mt. Holyoke College, South Hadley, Mass.
Muhlenberg College, Allentown, Pa.
Municipal University of Akron, Akron, Ohio
New York State College for Teachers, Albany, N. Y.
North Carolina College Agricultural Experiment Station, Raleigh, N. C.
North Dakota Agricultural College, Agricultual College, N. Dak.
Ohio State University, Columbus, Ohio

Oxford College, Oxford, Ohio
Penn College, Oskaloosa, Iowa
Pennsylvania State College, State College, Pa.
Purdue University, Lafayette, Ind.
Queens University, Kingston, Ontario
Rensselaer Polytechnic Institute, Troy, N. Y.
Ripon College, Ripon, Wis.
St. John's College, Brooklyn, N. Y.
Shanghai University, Shanghai, China
Sheffield Scientific School, New Haven, Conn.
Simmons College, Boston, Mass.
Simpson College, Indianola, Iowa
Smith College, Northampton, Mass.
South Dakota State College, Brookings, S. Dak.
State Teachers College, Cape Girardeau, Mo.
State University of Kentucky Agricultural College Experiment Station, Lexington, Ky.
Sweet Briar College, Sweet Briar, Va.
Teachers College, New York City
Temple University, Philadelphia, Pa.
Texas Agricultural and Mechanical College, College, Texas
Trinity College, Hartford, Conn.
University of Arizona, Tucson, Ariz.
University of California, Berkeley, Calif.
University of Chicago, Chicago, Ill.
University of Cincinnati, Cincinnati, Ohio
University of Florida, Gainesville, Fla.
University of Georgia, Athens, Ga.
University of Illinois, Urbana, Ill.
University of Iowa, Iowa City, Iowa
University of Kansas, Lawrence, Kan.
University of Louisville, Louisville, Ky.
University of Miami, Oxford, Ohio
University of Mississippi, University, Miss.
University of Missouri, Columbia, Mo.
University of Montana Agricultural Experiment Station, Bozeman, Mont.
University of North Carolina, Chapel Hill, N. C.
University of Nevada, Reno, Nev.
University of Oklahoma, Norman, Okla.
University of Oregon, Portland, Oreg.
University of Rochester, Rochester, N. Y.
University of South Dakota, Vermillion, S. Dak.
University of Southern California, Los Angeles, Calif.
University of Syracuse, Syracuse, N. Y.
University of Tennessee, Memphis, Tenn.
University of Texas, Galveston, Texas
University of Texas, School of Botany, Austin, Texas
University of the South, Sewanee, Tenn.
University of Utah, Salt Lake City, Utah
University of Vermont, Burlington, Vt.
University of Virginia, University, Va.
University of West Virginia, Morgantown, W. Va.
University of Wisconsin, Madison, Wis.

University of Wyoming, Agricultural College, Laramie, Wyo.
Upper Iowa University, Fayette, Iowa
Washburn College, Topeka, Kan.
Washington State College, Pullman, Wash.
Wellesley College, Wellesley, Mass.
Western College for Women, Oxford, Ohio
Western Reserve University, Cleveland, Ohio
Williams College, Williamstown, Mass.

MEDICAL SCHOOLS AND COLLEGES

Chicago College of Medicine and Surgery, Chicago, Ill.
Chicago Hospital College of Medicine, Chicago, Ill.
Chicago Veterinary College, Chicago, Ill.
Columbia University College of Physicians and Surgeons, New York City
Columbia University Dental School, New York City
Cornell University Medical College, New York City
Dartmouth Medical School, Hanover, N. H.
Emory University School of Medicine, Atlanta, Ga.
Flower Hospital Medical School, New York City
Harvard Medical School, Boston, Mass.
Indiana University School of Medicine, Indianapolis, Ind.
Johns Hopkins University, Baltimore, Md.
Medical College of South Carolina, Charleston, S. C.
New York Post Graduate Medical School, New York City
New York State Veterinary College, Ithaca, N. Y.
Northwestern University Medical School, Chicago, Ill.
St. Louis College of Physicians and Surgeons, St. Louis, Mo.
St. Louis University of Medicine, St. Louis, Mo.
University of Illinois College of Medicine, Chicago, Ill.
University of Kansas Medical School, Rosedale, Kan.
University of Nebraska College of Medicine, Omaha, Neb.
University of Pennsylvania Medical School, Philadelphia, Pa.
Virginia Medical College, Richmond, Va.
Wake Forest School of Medicine, Wake Forest, N. C.
Washington University Medical School, St. Louis, Mo.
Yale Medical School, New Haven, Conn.

HIGH SCHOOLS

Morris High School, New York City
Trenton High School, Trenton, N. J.

PRIVATE SCHOOLS

Packer Collegiate Institute, Brooklyn, N. Y.
Skidmore School of Arts, Saratoga Springs, N. Y.

OTHER SCHOOLS

Alabama Girls' Technical Institute, Montevallo, Ala.
Kansas State Normal School, Emporia, Kan.
Missouri State Normal School, Cape Girardeau, Mo.
New Jersey State Normal School, Trenton, N. J.

Northern Normal and Industrial School, Aberdeen, N. Dak.
Pratt Institute, Brooklyn, N. Y.
State Normal School, Athens, Ga.
State Normal School, Natchitoches, La.
State Normal School, Wayne, Neb.

HOSPITALS

Battle Creek Sanitarium, Battle Creek, Mich.
Borgess Hospital, Kalamazoo, Mich.
Buffalo General Hospital, Buffalo, N. Y.
Camp Stuart, Virginia
Charlotte Sanatorium, Charlotte, N. C.
Christ Hospital, Jersey City, N. J.
Christian Church Hospital Association, Kansas City, Mo.
Cincinnati Tuberculosis Sanatorium, Cincinnati, Ohio
The Clinic, South Bend, Ind.
Columbia Hospital, Milwaukee, Wis.
Embarkation Hospital, Newport News, Va.
Flower Hospital, Toledo, Ohio
Fort McPherson, Georgia
Fort Sam Houston, Texas
Fort Slocum, New York
Fort Wadsworth, Staten Island
Hahnemann Hospital, Rochester, N. Y.
Jewish Hospital, Brooklyn, N. Y.
Kessler-Hatfield Hospital, Huntington, W. Va.
Laboratories del Hospital di San Juan de Dios, San José, Costa Rica
Lakeside Hospital, Cleveland, Ohio
Memorial Hospital Laboratory, Santa Barbara, Calif.
Milwaukee County Hospital, Wanwatosa, Wis.
Mt. Sinai Hospital, New York City
Naval Station Base Hospital, New York City
New Jersey State Hospital, Trenton, N. J.
Pamsetgaaf Sanatorium, Prescott, Ariz.
Polyclinic Hospital, New York City
Presbyterian Hospital, New York City
Roosevelt Hospital, New York City
St. Joseph's Hospital, Ottumwa, Iowa
St. Luke's Hospital, New York City
St. Luke's Hospital, South Bethlehem, Pa.
Sheltering Arms Hospital, Hansford, W. Va.
Tennessee Coal and Iron R. R. Employees' Hospital, Fairfield, Ala.
Waterbury Hospital, Waterbury, Conn.
West Pennsylvania Hospital, Pittsburgh, Pa.
The Youngstown Hospital Association, Youngstown, Ohio

BOARDS OF HEALTH

Alabama State Board of Health, Montgomery, Ala.
Board of Health, Madison, Wis.
Boston Board of Health, Boston, Mass.
Cincinnati Board of Health, Cincinnati, Ohio
Department of Health, Bridgeport, Conn.

Department of Health, Charleston, W. Va.
Department of Health, Elyria, Ohio
Department of Health, Jackson, Mich.
Department of Health, Sioux Falls, S. Dak.
Georgia State Board of Health, Atlanta, Ga.
Health Department, Rochester, N. Y.
Hudson County Board of Health, Hudson County, N. J.
Louisiana State Board of Health, New Orleans, La.
Maryland State Department of Health, Baltimore, Md.
Michigan State Department of Health, Lansing, Mich.
New York City Research Laboratory, New York City
New York State Board of Health, Albany, N. Y.
Philadelphia Department of Health, Philadelphia, Pa.
Provincial Board of Health, Winnipeg, Manitoba

COMMERCIAL LABORATORIES AND FIRMS

Abbott Alkaloidal Co., Chicago, Ill.
E. R. Alexander Clear Serum Co., Kansas City, Mo.
American Can Co., New York City
Arlington Chemical Co., Yonkers, N. Y.
Atlas Power Co., Tamaqua, Pa.
Beebe Laboratories, Inc., St. Louis, Mo.
Blumberg Biological Laboratory, Omaha, Neb.
Borden's Milk Co., New York City
Boston Bio-Chemical Laboratory, Boston, Mass.
Comparative Vaccine Laboratory, Brooklyn, N. Y.
Cutter Laboratory, Berkeley, Calif.
Digestive Ferments Co., Detroit, Mich.
E. I. du Pont de Nemours & Co., Henry Clay, Del.
The Eagle Co., Kansas City, Kan.
Greeley Laboratories, Inc., Boston, Mass.
Hygienic Mfg. Laboratory, Kansas City, Mo.
Jensen-Salsbery Laboratory, Kansas City, Mo.
Kolynos Co., New Haven, Conn.
Lederle Laboratories, New York City
Lederle Laboratories, Pearl River, N. Y.
H. K. Mulford Co., Glen Olden, Pa.
National Vaccine & Antitoxin Institute, Washington, D. C.
Northwestern Chemical Co., Wanwatosa, Wis.
Parke, Davis & Co., Detroit, Mich.
Penick and Ford, Ltd., New Orleans, La.
Research Veterinary Laboratory, Indianapolis, Ind.
Royal Serum Co., Kansas City, Mo.
Ruppert's Brewery, New York City
Schwartz Laboratory, New York City
Joseph Schneible Co., Chicago, Ill.
The Service Laboratory, New York City
E. R. Squibb & Sons, New Brunswick, N. J.
Staniford Laboratory, Tacoma, Wash.
Swan-Myers Co., Indianapolis, Ind.
Takamine Laboratories, Inc., Clifton, N. Y.
Ultra Violet Ray Co., South Norwalk, Conn.

Upjohn Co., Kalamazoo, Mich.
White Tar Co., Kearney, N. J.
Zinsser Chemical Co., Hastings-on-Hudson, N. Y.

RESEARCH

Brooklyn Botanic Garden, Brooklyn, N. Y.
Marine Biological Laboratory, Woods Hole, Mass.
Missouri Botanic Garden, St. Louis, Mo.
Mississippi Agricultural Experiment Station, Agricultural College, Miss.
New Jersey Agricultural Experiment Station, New Brunswick, N. J.
New York State Agricultural Experiment Station, Geneva, N. Y.
Oklahoma Agricultural Experiment Station, Stillwater, Okla.
Ontario Agricultural Experiment Station, Guelph, Ontario
The Research Institute, Cleveland, Ohio
Rockefeller Institute, New York City
United States Department of Agriculture, Bureau of Animal Industry, Grove City, Va.
United States Department of Agriculture, Bureau of Animal Industry, Washington, D. C.
United States Department of Agriculture, Bureau of Chemistry, Washington, D. C.
United States Department of Agriculture, Bureau of Plant Industry, Washington, D. C.
United States Public Health Service, Fayetteville, N. C.
United States Public Health Service, Washington, D. C.
Vermont Agricultural Experiment Station, Burlington, Vt.
Virginia Agricultural Experiment Station, Blacksburg, Va.

MISCELLANEOUS

F. J. Austin, New York City
Bureau of Markets, New York City
Dr. William Clayton, Liverpool, England
Stanley E. Coffey, San Francisco, Calif.
Department of Public Works, Milwaukee, Wis.
Dr. J. L. Hatch, New York City
Dr. Joseph Herman, Brooklyn, N. Y.
Dr. J. O. Hirschfelder, San Francisco, Calif.
Dr. A. L. Kennedy, Brooklyn, N. Y.
Dr. William T. Learned, Fall River, Mass.
Dr. D. J. McLean, Palmer, Mass.
Mrs. George H. Mengel, Pittsburgh, Pa.
Montefiore Home, New York City
Dr. James J. Morgan, Chicago, Ill.
Miss Amy L. Page, Woonsocket, R. I.
Dr. O. S. Reiche, Hazleton, Pa.
Mrs. E. Setlow, New York City
Dr. Marvin Smith, Jacksonville, Fla.
Dr. H. M. Snitzer, Pittsburgh, Pa.
Dr. D. R. Ulmer, Terre Haute, Ind.
Dr. Watabiki, Tokio, Japan
William Weinstein, Newark, N. J.
Dr. Roy Welton, Pittsburgh, Pa.
Y. M. C. A., Chicago, Ill.

APPENDIX H.

LIST OF NATURE-STUDY COLLECTIONS

Loaned to the Public Schools by

The American Museum of Natural History

To meet the numerous requests received from teachers to supply them with nature-study material, The American Museum of Natural History has prepared several small collections of natural-history specimens, which are loaned for short periods to the public schools of Greater New York. These collections are as follows:

Native Birds. Adapted for Grades 1A-4B:

Owl Set—Containing owl, chickadee, nuthatch, song sparrow, kinglet

Blue Jay Set—Containing blue jay, woodpecker, crossbill, junco, English sparrow

Robin Set—Containing robin, red-winged blackbird, oriole, meadow-lark, chipping sparrow

Bluebird Set—Containing bluebird, phoebe, barn swallow, house wren, chimney swift

Tanager Set—Containing scarlet tanager, red-eyed vireo, goldfinch, humming-bird, pigeon

Small Mammals. Adapted for Grades 1A-5A:

Containing a representative of each of four distinct groups of animals: The mole, an animal that lives underground; the bat, an animal that flies through the air; the squirrel, a rodent or gnawing animal; and the weasel, a carnivore or predatory, flesh-eating animal

Insects. Adapted for Grades 2A-5A:

Containing cynthia and cecropia moths, monarch butterfly, etc., and typical representatives of the different groups of insects

Economic Insects. Adapted for Grades 2A-5A:

Specimens representing the complete life-history of the silkworm, a useful insect, and of the tent caterpillar, an injurious insect

Special Insects. Adapted for Grades 2A-5A:

Containing life-history of cecropia moth, development of monarch butterfly, life and work of honey-bee, and household insects

Mollusks. Adapted for Grades 4A and 5A:

Containing shells of about twenty-five mollusks, including specimens of the oyster, clam and chambered nautilus

Crabs. Adapted for Grade 5A:

Containing relatives of the common blue crabs

Starfishes and Worms. Adapted for Grades 4A and 5A:

Containing typical species of the two groups

Sponges and Corals. Adapted for Grades 4A and 5A:

Containing about fifteen species of corals and their relatives

MINERALS AND ROCKS. ADAPTED FOR GRADES 3B AND 4A:
Containing twenty specimens of minerals and building stones

NATIVE WOODS. ADAPTED FOR GRADES 2A AND 5B:
Containing elm, hickory, maple, white birch, ailanthus, sweet-gum, sour-gum, chestnut, sycamore. Specimens show cross, longitudinal and oblique sections of the wood, characteristic bark, annual rings, etc.

PUBLIC HEALTH FOLIOS

ADAPTED FOR PUPILS OF THE HIGH AND ELEMENTARY SCHOOLS

SPREAD AND PREVENTION OF COMMUNICABLE DISEASE:
Containing eighteen photographic charts illustrating how diseases are commonly spread and how they may be prevented

INSECTS AND DISEASE:
Containing twelve photographic charts illustrating the life-histories of some common household insects, which carry disease. Conditions favorable for the breeding of these insects are also shown, as well as methods of extermination

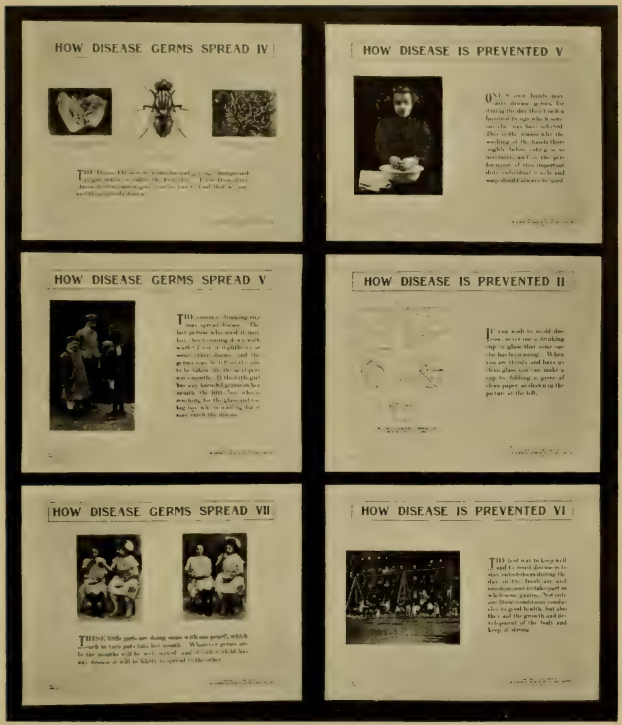
BACTERIA AND THEIR WORK IN THE WORLD:
Containing eight photographic charts illustrating beneficial and harmful bacteria and their work

The specimens in the collections have been selected with a view to supplying material required in the Syllabus of Nature-Study issued by the Board of Education.

Each collection is accompanied by a set of notes, brief but in the nature of suggestions to teachers, giving facts on the structure, habits and characteristics of the particular species in the collection. To the notes is appended a bibliography of the subject treated.

Memoranda regarding the Loan of Circulating Collections:

1. Applications for the use of collections should be made by the Principal
2. Applications should be addressed to the
   Curator, Department of Public Education,
   American Museum of Natural History
3. Messengers of the Museum will deliver the collections and transfer them at the end of the loan periods, without expense to school or teacher
4. Collections may be retained for a period of three weeks


HOW DISEASE GERMS SPREAD IV
HOW DISEASE IS PREVENTED V
HOW DISEASE GERMS SPREAD V
HOW DISEASE IS PREVENTED II
HOW DISEASE GERMS SPREAD VII
HOW DISEASE IS PREVENTED VI

PUBLIC HEALTH CHARTS FOR TEACHING PURPOSES

These Wall Charts are Loaned to the Public Schools of Greater New York

APPENDIX 1.

COMMENTS OF EMINENT EDUCATORS ON THE EDUCATIONAL WORK OF THE MUSEUM

"I congratulate you on what you have done at the American Museum of Natural History. I am speaking upon the advice of expert knowledge when I say that you have carried out an ideal of public service in our great municipality that has nowhere else been attained; . . . The service which you have rendered New York is unique, and I hope that the city is going to make it possible for you to be of still greater service to it."

JOHN H. FINLEY,
President, The University of the State of New York

"I am gratified to see that the Museum is indeed making education and its problems a theme for research. I regard the usefulness of an institution such as yours dependent in some measure upon the contact it maintains with the world of education: especially with that part which is represented by our colleges and universities."

BENJAMIN IDE WHEELER,
President, University of California

"I appreciate fully the splendid service the Museum has always rendered and shall always be willing to recommend that its activities receive adequate financial support."

WILLIAM L. ETTINGER,
Superintendent of Schools, New York City

"Of the educational value of the Museum's exhibits I was already well aware and feel a debt of gratitude to its officers and the city that supports it for the better understanding of nature on my own part and on that of my family, which frequent visits to the Museum afforded us during our residence in New York."

ERNEST FOX NICHOLS,
President, Dartmouth College

"If ever the schools were in danger of claiming a monopoly of education, such enterprises as this of yours must have awakened them from their dreaming. I am sure it is good for all of us who are

engaged in educational work in the narrower sense to feel that the scope of the work is broader than our own endeavors."

ALEXANDER MEIKLEJOHN,
President, Amherst College

"It is inspiring to know what a great work the American Museum is now achieving."

W. H. P. FAUNCE,
President, Brown University

"I am looking the Annual Report through and finding it very interesting. The American Museum is already one of the greatest museums of the world, and I do not doubt that your vision sees it soon the greatest of all. Good luck to the fulfilment of that vision."

W. W. CAMPBELL,
Director of the Lick Observatory, University of California

"I shall read all of it with much pleasure, but particularly that part relating to the educational work of the Museum. The extent and quality of this work should be very gratifying to you. It is an inspiration to the rest of us."

H. W. KENT,
Secretary, The Metropolitan Museum of Art

"I am impressed by the fact that you are making a very successful effort to bring about coöperation between the Museum and the public school system of your city."

BARTON W. EVERMANN,
Director, California Academy of Sciences

APPENDIX J.

APPRECIATION FROM THE PUBLIC SCHOOLS

The Bird Collections a Real Enjoyment

Public School No. 113, Manhattan

"I do not know how we ever had any bird study down in this section of the city before the Museum began to lend us the collections of birds. Now we have not only the study of the birds but the children draw them in color, thus doubling the enjoyment. I keep the birds near my office door and no child passes without giving a good long look in their direction."

The Jesup Collection a Stimulus for Wood Collections Made by Boys

Public School No. 150, Brooklyn

"The children are told of things in nature but rarely have the opportunity of seeing them except through the collections. The class of 5A boys were interested in examining the different woods at the Museum. One boy made a collection of hard woods, which the other boys take great pleasure in studying."

The Mounted Bird Means Much in the Imagination of the City Child

Public School No. 76, Manhattan, Grade 2B

"These little people of the second grade, brought up under the abnormal conditions of the city, love the birds of the collection. They smooth and pet them, and even kiss them when I am not watching."

The Museum Gives Children a Greater Love for Living Animals

Public School No. 76, Manhattan

"As our pupils live within walking distance of the Museum, they go there frequently. The great attractions for the boys are the wonderful Indian collections. For class use the bird collections are prime favorites. All our teachers tell me of the pleasure it gives their children to be permitted to touch these specimens carefully and tenderly.

"The members of one class of 4B boys were very enthusiastic over the skeleton of Jumbo. This enthusiasm, as usual, found expression in greater love for the living animal, for we learned while a class was planting seed that one little boy had gone to the park during his luncheon hour and planted some seed near the elephants' house."

Children Remember What They Learn at The Museum

Public School No. 25, Manhattan

"The knowledge obtained both from the collections sent us and the lectures given at the Museum means much more to the children than that obtained from books. The information is so definite and interesting that it creates a strong and lasting impression upon the minds of the children, and they are thus able to retain it very effectually."

A Letter to Make The Museum Desire to do Still More for The Schools

Public School No. 84, Brooklyn

"Many of our pupils are children who never see the country and who are totally unacquainted with any birds or insects found outside of the crowded city streets. The specimens enable these children to form correct conceptions of otherwise fabulous creatures.

"In their own way the children show quite as much appreciation as their teachers. The first question they invariably ask is, 'Is it real?' When assured upon this point they are always deeply interested, and very anxious to 'feel how soft the bird's coat is!' Each new interest endures as a helpful foundation for further work. Allusions to any subject studied with the help of Museum specimens bring an immediate and intelligent response."

Thirty-six Museum Lectures Attended

Public School No. 184, Manhattan

"Our higher classes have attended thirty-six lectures which helped to fix the grade work, were an entertainment and brought out a pleasant attitude toward their work. Among the favorite lectures were 'From Pole to Pole,' 'Early Days in New York,' 'Natural Resources of the United States,' and 'Life Among the Indians.' These afforded material for geography, history, nature study and language work."

Word From a Distant School

Public School No. 59, Brooklyn

"My school is located at so great a distance from the Museum that it is not possible to send classes there because of the carfare involved. Thus my teachers and I welcome the collections sent to the school, and the children are always delighted to see the boxes and to study their contents."

The Children of "Little Italy of The West Side"

Industrial School No. 5

"When the Museum of Natural History was brought down to Industrial School No. 5, in the shape of suitable collections in se-

quence for study, it was a good thing for the children of 'Little Italy of the West Side," who live so far down town, near Sullivan, MacDougal and West Houston Streets, that they have little opportunity to go to the Museum.

"The children like the birds especially and it is remarkable the aptitude with which they learn to know them. The humming bird is a great delight and the solemn owls are studied with round-eyed wonder. Three classes were taken to the Museum last term. Their experiences are always related at home to the other members of the family, and in this way the benefit is far reaching."

The School Children of New York Help The Museum to a Greater Usefulness

Public School No. 10, Manhattan

"Many of the children know not even of the existence of such a place until they have accompanied their teacher to view some exhibit. Their delight then sends them home to tell parents and friends of their wonderful 'find,' and again and again they visit the enchanted ground with varying groups of acquaintances. So in their childish way, by making the Museum known to the greater mass of the citizens of New York, they help it to a greater and ever widening realization of its usefulness."

The Museum Has Justified All It Cost by What It Does For Children of Elementary Schools

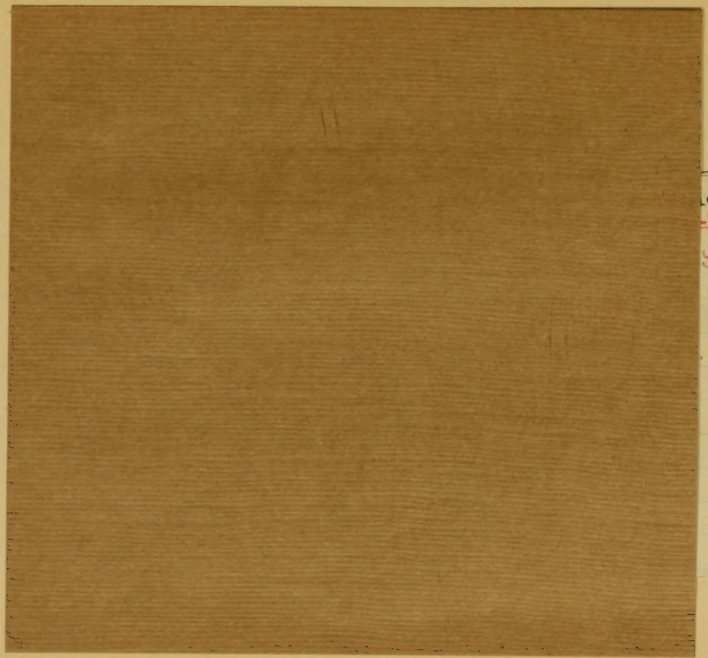
Public School No. 50, Manhattan

"I have not seen equalled in any European country the hospitality with which the Museum has opened its doors to the children, providing guides to escort them through the building. The children have been intelligent and eager listeners to the lectures, and have always returned to school the following day enthusiastic over their experience, which provided an outing for many whose lives are not often gladdened, while affording instruction as well as rare pleasure.

"It has been the good fortune of Public School No. 50 to have lecturers like Mr. Sherwood and Mrs. Roesler come to the children in their own school and show them, from specimens sent by the Museum, the characteristics of many birds whose notes they reproduced to the great pleasure of the children. It is a 'red-letter day' in Public School No. 50 when a new case of specimens arrives and is exhibited to the children.

"We feel that the Museum would have justified all that it has cost if it were only for what it does for the children of the elementary schools."

EDUCATIONAL EXTENSION WORK
OF
THE AMERICAN MUSEUM OF NATURAL HISTORY
NEW YORK CITY
1919
PUBLIC SCHOOLS SUPPLIED BY THE MUSEUM WITH NATURE STUDY COLLECTIONS OR LECTURES IN 1919
Public Schools
High Schools
Corporate Schools
AMERICAN MUSEUM OF NATURAL HISTORY
BOROUGH OF BRONX
BOROUGH OF QUEENS
BOROUGH OF BROOKLYN
BOROUGH OF RICHMOND
HUDSON RIVER
EAST RIVER
NORTH RIVER
NEW YORK BAY
UPPER NEW YORK BAY
JERSEY CITY
Hoboken
Weehawken
Whitestone
Bayside
College Point
Flushing
North Beach
Flushing Bay
Jamaica Bay
Canarsie
Bergen Beach
Gravesend Bay
St George
Tompkinsville
Stapleton
Port Richmond
Richmond
Bayonne
CENTRAL PARK
PROSPECT PARK
FOREST PARK
STATISTICS RELATING TO MUSEUM EXTENSION WORK
1919
Circulating Nature Study Collections:
Number of Collections in Use 668
Number of Schools of Greater New York Supplied 385
Number of Pupils Studying the Collections . . . 860,992
Lectures to Public School Children:
Number of Lectures Given 90
Number of Schools Represented 120
Total Attendance 49,162
Total Number Reached by Museum Extension . . 1,033,094
Statute Miles
TRANSPORTATION LINES
Railway Systems
Hudson & Manhattan R. R. Tunnels
Elevated Railroads
Street Car Lines
Steam Railroads
Steam Railroad Tunnels
Ferries
Borough Boundaries
Parks



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